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INDICATIONS AND CONTRAINDICATIONS FOR MEDULLARY NAILING OF FRACTURES

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American surgeons have now had sufficient experience with medullary fixation to permit them to accept this method as a valuable addition to our armamentarium in the treatment of fractures of long bones. However, the introduction of a suitable nail may require an operative exposure of the fracture site, and this converts a simple fracture into a compound one with its attendant danger of infection and of nonunion. Furthermore, the danger of infection seems to be greater after medullary nailing than after most other clean surgical operations. Consequently, the method should not be used routinely and fractures that can be treated satisfactorily by closed reduction and external fixation, or by traction, should be so treated. The frequency with which medullary fixation is used will and should vary directly with the surgeon's interest and skill in the use of the method and indirectly with his ability to treat fractures by more conservative measures.

The insertion of a medullary nail is usually a relatively simple procedure, but at times it may entail a very difficult operation that is fraught with danger to the patient. Consequently, it should not be tried by the uninitiated. A prerequisite for the insertion of such a nail is the presence of a surgeon who has had experience with the method and is available to perform the operation. It is also necessary that the proper nails for this particular bone be on hand and that the operation set contain instruments for inserting and extracting the nail. These should include a long drill and broach or reamer for enlarging the canal if necessary and a hacksaw or large bolt cutter for cutting the nail off in case it should become impacted and the surgeon not be able to remove it without unduly shocking the patient.

INDICATIONS FOR MEDULLARY NAILING

Bones Most Suitable for Nailing.—The bones most suitable for nailing are the long bones. In my opinion the relative frequency with this procedure as indicated in fractures of various bones is: femur, phalanges of fingers, tibia, metacarpals, radius and ulna, humerus, fibula, and metatarsals. The femur is ranked first because of the difficulties in treating fractures of the shaft of this bone by more conservative methods and of the shortening of the period of hospitalization and of disability that result from a successful nailing of a fracture of the shaft of the femur.

The fingers are ranked second because fixation with a Kirschner wire may not only preserve function in the fractured finger but permits the use of the rest of the hand while the fracture is healing and tends to prevent the stiffness that too often follows prolonged immobilization of this member. The tibia is ranked third because Lottes [1] has shown that closed reduction and blind nailing of this bone is a practical procedure and because results are better than those obtained by other methods (Lottes and Key [2]). The humerus is put low in the scale because most fractures of this bone can be treated successfully by much simpler methods, for instance, the hanging cast. The reasons for the order in which the other bones are ranked should be apparent to anyone who treats many fractures, but opinion may vary as to the relative frequency with which nailing is indicated in fractures of the various bones. However, the nail should be reserved for those fractures where it presents a definite advantage over the results obtained by more conservative methods or where circumstances justify the added risk in order to shorten the periods of hospitalization and disability.

Type of Fracture.—It is generally agreed that the ideal fracture for nailing is a simple transverse or short oblique fracture in the middle third of a long bone. To this should be added double and triple fractures of the shaft of a long bone, because of the difficulties in treating these by closed reduction or traction and the tendency of one or more of the fractures not to unite when treated conservatively or by open reduction and plating. However, with increased experience surgeons are now finding that fractures within 3 in. (7.6 cm.) of either end of the femur or tibia can be nailed successfully in the conventional manner if the nail is supplemented by external fixation. This is especially

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1. Lottes, J. O.: Blind Nailing Technique for Insertion of the Triflange Medullar Nail: Report of 300 Nailings for Fractures of the Shaft of the Tibia, J. A. M. A. **155**: 1039-1042 (July 17) 1954.

2. Lottes, J. O., and Key, J. A.: Complications and Errors in Technique in Medullary Nailing of the Femur, in Clinical Orthopaedics, DePalma, A. F., editor, Philadelphia, J. B. Lippincott Company, 1953, vol. 2, pp. 33-50.

true of the tibia, because here we routinely apply a walking cast that is to be worn until the fragments are united. Also, with the use of two slightly curved Rush nails it is possible to fix supracondylar fractures of the femur or humerus quite firmly, and this may be supplemented by external fixation if necessary. Likewise, fractures of the proximal portion of the humerus can be stabilized with a nail or wires driven down through the greater tuberosity and into the shaft. This is especially indicated in fracture-dislocations of the shoulder.

Vom Saal [3] has used Kirschner wires to fix fractures near and including the ends of the metacarpals and phalanges, and Rush and Rush [4] have used a Rush nail through the major fragment and down the medullary canal of the radius in the treatment of severe Colles' fractures. Some surgeons are successful in using a medullary nail in the treatment of long oblique fractures and of comminuted fractures, especially of the butterfly type. But in these it may be necessary to reinforce the nail with one or more screws or encircling wires or bands, just as it may be advisable to bridge the fracture of a femur with a bone plate in instances where the nail does not fit tightly enough to prevent rotation deformity. This fixation in rotation is one of the reasons why it is advisable, especially in the femur, to use the largest nail that the bone will accommodate. Also the surgeon should supplement the nail with external fixation where there is any doubt as to the efficiency of the fixation by the nail.

Whether compound fractures may be nailed either immediately at the time of débridement or later after the wound has healed is a moot question. The insertion and leaving of the large foreign body in the bone undoubtedly interferes with the blood supply of the bone and increases the trauma to soft tissues and thus adds to the danger of infection. Consequently, many surgeons feel that the nail should not be inserted at the time of the débridement and primary suture. Others, however, believe that the more perfect immobilization produced by the nail more than balances the added danger of infection and insert the nail at the time of the débridement. When the nail is inserted at the time of the débridement, the wound may be closed, drained, or packed open. The presence of the nail does not appreciably affect the treatment of the wound except that it affords fixation of the fragments and thus tends to facilitate care of an open wound and lessen the spread of infection.

If so much time has elapsed since the injury that the wound cannot be closed by primary suture with relative safety, it is unwise to insert the nail at this time and the wound should be left open and the fracture treated by traction or a cast. The time of relative safety for primary suture is from 6 to 12 hours, depending upon the severity of the damage to the soft tissues and of the contamination of the wound and whether the patient has had adequate antibiotic therapy. When the wound is closed by delayed primary or secondary suture a medullary nail may be inserted only if the wound is unusually clean; otherwise one should wait until the wound is healed and then insert the nail. If it can be done without exposing the fracture, the nail may be inserted in about two weeks, and when this is done the skin sutures should not be removed until after the nail is in place.

Ordinarily the presence of infection at the fracture site is a contraindication for medullary nailing. However, in selected cases it is a very valuable method even in the presence of infection and may obviate prolonged immobilization in bed, with sepsis, cachexia, kidney stones, and eventual nonunion. Brav and Jeffress [5] have reported 8 such cases of old, infected gunshot fractures of the femur, and Lottes has nailed 12 chronically infected fractures with nonunion (each with a high percentage of successes). At the operation the wound is carefully débrided, the ends of the bone are freshened, and the nail is then inserted in the ordinary manner. The wound is left wide open, preferably with posterior drainage, the extremity is immobilized in a splint or a plaster cast, and antibiotic treatment is given. There appears to be little danger of spreading the infection down into the distal fragment.

In pathological fractures of long bones medullary nailing may be the best form of treatment available because it shortens the convalescence and relieves the pain in patients who may not have very long to live and to whom each day of normal activity is important. Here, too, there appears to be little danger of the nail spreading the tumor down the medullary canal. In selected impending pathological fractures it is good practice to insert a medullary nail before the fracture occurs. In fractures of long bones with delayed union or nonunion, a medullary nail is an excellent type of internal fixation, as it tends to immobilize the ends of the fragments and permits impaction and partial weight bearing. If the bone ends are sclerotic it may be necessary to ream out the medullary canal in order to permit passage of the nail. When the site of the nonunion is exposed for nailing and after the nail is in place, one or more grafts of autogenous compact or cancellous bone are placed across the fracture site and the soft tissues are sutured over them. No grafts are used if there is evidence of infection at the fracture site. In the leg or forearm it may be advisable to resect a section of or obliquely osteotomize the intact bone in order to permit approximation and impaction of the bone ends. Some surgeons advise the routine insertion of bank or autogenous bone grafts when a fresh fracture has been nailed by open operation, but this has not been our practice.

CONTRAINDICATIONS FOR MEDULLARY NAILING

Fortunately, the contraindications for medullary nailing are not as numerous as the indications. They may be divided into general and local: The first general contraindication, as stated above, is the lack of the necessary equipment and skilled personnel. The second is the condition of the patient. It is unwise to subject a patient in shock or impending shock to a major elective operation, and the insertion of a medullary nail is an elective procedure. It is better to immobilize the fracture by traction or in a plaster cast or splint and operate on the fracture later after the general condition of the patient has improved. Likewise, in a case of multiple fractures where such treatment is indicated for two of more fractures, it may be advisable to nail one and then do the others a few days later. This will depend upon how smoothly the first op-

3. vom Saal, F. H.: Intramedullary Fixation in Fractures of the Hand and Fingers, J. Bone & Joint Surg. **35-A**: 5-16 (Jan.) 1953.

4. Rush, L. V., and Rush, H. L.: Longitudinal Pin Fixation in Colles' Fracture of the Wrist, South. Surgeon **15**: 679-686 (Sept.) 1949.

5. Brav, E. A., and Jeffress, V. H.: Modified Intramedullary Nailing in Recent Gunshot Fractures of the Femoral Shaft, J. Bone & Joint Surg. **35-A**: 141-152 (Jan.) 1953.

eration goes and how well the patient is doing when it is finished. On the other hand, in a patient who is in poor general condition after long conservative treatment in bed for a fracture of the femur it may not be possible to get him in good condition before the operation. In such cases the fixation of the fracture with a medullary nail may be a lifesaving measure and while risky is justified even in the presence of pressure sores. With careful preparation of the skin and draping of the patient, it is possible to exclude such areas from the operative field and by the preoperative and postoperative use of antibiotics to lessen the danger of infection.

Infection in or near the fracture site is usually a contraindication, but, as mentioned above, there are exceptions to this rule. Poor condition of the skin over the operative field is a danger that may be overlooked. This is especially apt to be present after prolonged immobilization in a plaster cast. I have seen one case of postoperative infection after nailing of the femur that I attributed to this cause. A longer time should have been allowed after the removal of the cast and until it was possible to get the skin over the operative field into good condition. Also in reopening a recent wound that has been closed after débridement of a compound fracture or after open reduction and internal fixation of a simple fracture the surgeon should look for evidence of a low-grade infection and take cultures from the depth of the wound. In such cases, even when no evidence of infection is found, it is advisable to place a small drain in the wound and remove it after 48 hours if all seems to be going well or to open the wound widely if there is evidence of infection. I have seen one such infection of a tibia that had been fixed with a metal plate two weeks previously. As the fragments were maintained in slight distraction I decided to remove the plate and insert a medullary nail. No evidence of infection was seen at the operation, but in spite of postoperative antibiotic therapy an infection occurred, and it was only after several months of drainage and a third operation that union and final healing of the wound were secured. The possibility of inserting a nail in the presence of chronic infection has been considered above.

Age of the patient may also be considered a contraindication, because, while in patients of advanced age I am inclined to nail a femur or a tibia in order to shorten the disability, I do not nail such fractures in children. This is because I am afraid that the passage of the large nail through the epiphysial line might disturb the growth of the bone and also because such fractures can usually be treated satisfactorily by conservative means. I have nailed these bones in adolescents with excellent results and have not seen any disturbance in growth caused by the nail.

A further contraindication is the site and character of the fracture, as discussed above. However, with increased experience and the use of supplemental internal and external fixation I am now finding the nail useful in selected long oblique and comminuted fractures and in those near the ends of the bone. An objection, but not a contraindication for nailing, is that removal of the nail after the fracture has united is usually advisable. This may require a second hospitalization and operation. In many cases, however, the patients do not return for removal of the nail, and it seems probable that many of these nails may remain in situ indefinitely and cause no symptoms.

SUMMARY

While medullary nailing of fractures is a valuable addition to our fracture armamentarium, it is a radical procedure, and usually the proper insertion of such a nail requires an open reduction of the fracture and special equipment. Consequently, it is not recommended for routine use, and fractures that can be treated satisfactorily by more conservative methods should be so treated. The operation may be difficult and should not be undertaken by the uninitiated but reserved for the expert fracture surgeon who is working in a well-equipped hospital. And even he should fit his treatment to the fracture and the patient rather than nail every fracture that can be nailed. Additional fixation in a cast or splint should be used in cases where the nail does not effect sufficient immobilization of the fragments.

Fixation by medullary nailing is especially indicated in simple transverse or short oblique fractures of the middle third of the femur, phalanges, tibia, and forearm bones. In experienced hands the method may be used in fractures nearer the ends of long bones and in long oblique, comminuted, and compound fractures. It is contraindicated in children, in patients in shock, in areas of infection, and in fractures in which an intramedullary nail is not mechanically efficient in immobilizing the fragments.

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Pernicious Anemia.—At the present time many dozens of proprietary preparations contain both folic acid and vitamin B_{12}, usually in addition to other vitamins and iron. These preparations, although often advertised to be good for "all anemias" are not satisfactory for treatment of pernicious anemia. The vitamin B_{12} contained in these oral preparations is not absorbed and is therefore ineffective. Folic acid, on the other hand, is readily absorbed and may produce a hematologic remission while allowing neurologic symptoms to develop or progress. Many of the currently available multivitamin preparations contain sufficient folic acid to correct completely the blood and marrow abnormalities of patients with pernicious anemia.

The early symptoms of pernicious anemia include fatigue, weakness, soreness of the tongue, mild gastrointestinal disturbances and numbness and tingling of the hands and feet. A patient who develops one or the other of these symptoms is very likely to receive a multivitamin preparation, without appreciation of the correct diagnosis. If the preparation contains folic acid, anemia disappears before it was recognized to be present, alimentary symptoms subside and the patient often feels much improved. Weeks or months later, however, progressive neurologic disease will become apparent and may incapacitate the patient while the blood remains normal. At this time the physician often does not think of pernicious anemia, but considers the diagnosis of multiple sclerosis, cord tumor or some other neurologic disease. Since the diagnosis is not recognized, the patient may be deprived of the simple therapy which could have maintained him in excellent health.

Since the use of folic acid has become widespread, almost half of the new patients with pernicious anemia seen at the Johns Hopkins Hospital arrive with neurologic disease in the absence of an appreciable degree of anemia. Folic acid deficiency is extremely rare in the United States, and the indiscriminate use of this vitamin is not justified. Under no circumstances should folic acid in any form be administered to a patient whose symptoms might be those of pernicious anemia.—C. Lockard Conley, M.D., Pitfalls in the Diagnosis of Pernicious Anemia, *GP*, January, 1955.

PRACTICAL SCHEME FOR FLUID AND ELECTROLYTE THERAPY IN CHILDREN

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The purpose of the present paper is to outline in simple, concise form a practical routine for prescribing fluids for parenteral use in pediatric patients. The vast new literature on fluid and electrolyte therapy, stressing the role of potassium, has upset older concepts, which emphasized sodium therapy and acid-base balance, and the result for many busy practitioners has been a certain amount of uncertainty and confusion. At the request of surgeons and pediatricians alike, I have endeavored to draw up a few simple rules for therapy based on the fundamental research of Darrow, Butler, and many others. These rules and principles, which will be outlined later, have been in use in our clinic now for over one year and have proved not only simple and practical but also adaptable to nearly all surgical and medical situations that call for the parenteral use of fluids. First of all, in prescribing the fluid needed by any patient during a 24 hour period, we like to take into account three basic requirements: (1) the daily maintenance requirement; (2) fluids required to compensate for current abnormal losses (e. g., diarrhea, vomiting, and gastric suction); and (3) fluids needed to correct preexisting deficits. Each of these will be discussed in turn.

DAILY MAINTENANCE REQUIREMENTS

Butler [1] has shown that the daily requirements of water, sodium, and potassium in childhood are a function not of age or body weight but more exactly of body surface area. For this reason, in each case we calculate the surface area of the patient, which can be derived from his height and weight by using the familar nomogram of DuBois (contained in the standard pediatric texts of Holt-McIntosh and Mitchell-Nelson, and also available commercially in convenient printed sheets.) From Butler's figures we derive the following daily maintenance requirements per square meter of body surface:

Water	Na	K
1,500 Cc.	30 mEq.	20 mEq.

Thus, a 2-year-old patient with a height of 80 cm. and weight 12 kg. has a surface area of 0.5 square meters and would need daily 750 cc. of water (or sugar solution) containing 15 mEq. of sodium chloride and 10 mEq. of potassium chloride.

We prefer 10% invert sugar as the source of water and calories since it provides more calories than does 5% glucose and obviates the risk of glycosuria so common when 10% glucose solution is used. As the source of sodium chloride we use a special solution containing 17.4 gm. of sodium chloride in 100 cc. of distilled water. This is 3 M sodium chloride and contains 3 mEq. of sodium chloride per cubic centimeter. A similar 3 M solution of potassium chloride that contains 22.3 gm. of potassium chloride per 100 cc. provides 3 mEq. of potassium chloride per cubic centimeter. It, too, is made up in our own hospital, but one could as well use the commercially available molar solutions of sodium and potassium chloride. Thus in the case of the 2-year-old child who has been already described, one might make up the day's fluid as follows: from 1 liter of 10% invert sugar discard 250 cc.; to the remainder add 5 cc. of 3 M sodium chloride and 3.3 cc. of 3 M potassium chloride. Such a mixture contains 15 mEq. of sodium chloride and 10 mEq. of potassium chloride in 750 cc. of water and fulfills the daily maintenance needs. It should drip at such a rate as to require 24 hours for its absorption.

It is noteworthy that by adding the potassium to the entire day's fluid volume one avoids the danger of suddenly "flooding" the patient with too much potassium, as might occur if potassium were given in a separate bottle over a brief period. Another practical point is that patients can tolerate large volumes of water, even twice the basal requirements,[2] provided the salt content is not excessive. For this reason, we might be inclined to use a full liter of sugar solution in the above case instead of only 750 cc. By so doing more calories would be offered without danger of edema. In point of fact, we feel that patients with fever may well require more than 1,500 cc. per square meter per day and lately have tended to give 2,000 cc. per square meter per day for febrile patients and for surgical patients in the first day or two following operation.

REPLACEMENT OF ABNORMAL LOSSES

Whenever there are abnormal losses through diarrhea, vomiting, gastric suction, or spinal fluid leakage, etc., such losses are measured or carefully estimated. On the following day these losses are replaced by appropriate amounts of water, sodium chloride, and potassium chloride given in addition to the daily maintenance requirements. Gastric, intestinal, and biliary juices vary considerably in their composition but are all essentially isotonic with plasma, containing about 150 mEq. of electrolyte per liter.[3] Their potassium content varies from 5 to 20 mEq. per liter. The rest of the cation content is mostly sodium, except in the case of gastric juice, which is high in hydrogen ion.

For practical purposes for each liter of such fluid loss we replace 1,000 cc. of water, 135 mEq. of sodium chloride, and 15 mEq. of potassium chloride. Thus, in the case of the 2-year-old child weighing 12 kg. and having a surface area of 0.5 square meters, if we find the child has lost 200 cc. of diarrheal stool, we will give on the following day 200 cc. of water (as sugar solution), 27 mEq. of sodium chloride and 3 mEq. of potassium chlo-

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1. Butler, A. M.: Parenteral Fluid Therapy in Diabetic Coma, Acta pædiat. **38**: 59-70, 1949.

2. Talbot, N. B.; Crawford, J. D., and Butler, A. M.: Homeostatic Boundaries to Safe Parenteral Fluid Therapy, A. M. A. Am. J. Dis. Child. **84**: 479-481 (Oct.) 1952.

3. Cooke, R. E., and Crowley, L. G.: Replacement of Gastric and Intestinal Fluid Losses in Surgery: Preliminary Report, New England J. Med. **246**: 637-641 (April 24) 1952.

ride in addition to the daily maintenance needs. More exactly we would prescribe as follows:

Purpose	Water, Cc.	Sodium, mEq.	Potassium, mEq.
Maintenance	750	15	10
Replacement of current losses through diarrhea	200	27	3
Total	950	42	13

The figure 950 could be rounded off to 1,000 cc., so that in practice we would take 1,000 cc. of 10% invert sugar, add 14 cc. of 3 M sodium chloride and 4.3 cc. of 3 M potassium chloride. This volume should drip slowly over 24 hours.

CORRECTION OF PREEXISTING DEFICITS

The matter is somewhat more complicated in patients admitted in a state of dehydration and acidosis, as for example in infants with diarrhea, in diabetic coma, or in patients with intestinal obstruction or peritonitis. Such patients may have great deficits of water, sodium, and potassium that have to be met. They also have disturbances of pH, but as Darrow and Pratt [4] pointed out acidosis per se is usually of secondary importance, and our first efforts must be to combat shock, restore blood volume, and replace electrolytes. Once this is done the kidneys can nearly always be trusted to adjust the pH of the blood. We no longer depend on determinations of serum bicarbonate to guide us in administering alkali and in fact usually proceed with therapy without drawing blood for this determination.

As stated, in dehydration our first effort is to overcome shock and restore blood volume. For this purpose we use an "initial mix" after the manner of Butler. This initial mix is a solution essentially similar to extracellular fluid but only half isotonic as regards electrolyte. It contains 75 mEq. per liter of sodium, 50 mEq. per liter of chloride, and 25 mEq. per liter of lactate. To prepare the solution we take 1 liter of 5% glucose and add 50 mEq. of sodium chloride (17 cc. of our 3 M sodium chloride) plus 25 mEq. of sodium lactate (we use molar sodium lactate available in ampuls made by Abbott Laboratories, and we add 25 cc. of this to the liter of 5% glucose). The solution is given rapidly over a period of about two to three hours until the patient begins to urinate. As a rule we give 30 cc. per kilogram; then if the patient has voided we discontinue the initial mix. After this we may give a blood transfusion of about 320 cc. per square meter of body surface, if the patient seems to be in shock. In less severe cases the blood is omitted. Next, having reestablished renal function, we must calculate the fluid requirements for the rest of the day.

Butler [1] has shown that in dehydration fluid is lost from both the extracellular and the intracellular compartments, and his balance studies indicate that about half the loss is extracellular fluid and half is intracellular fluid. Extracellular fluid contains much sodium, roughly 150 mEq. per liter, but little or no potassium. Intracellular fluid, on the contrary, contains nearly 150 mEq. per liter of potassium but little or no sodium. In severely dehydrated infants 10% of the body weight may be lost; that is, roughly 100 cc. of fluid is lost for every kilogram of body weight. Of this 100 cc., 50 cc. is extracellular and would contain 7.5 mEq. of sodium, and 50 cc. is intracellular and would contain 7.5 mEq. of potassium. Thus, Butler derived the rule that, with 10% of the body weight lost through dehydration, there is a loss, per kilogram of body weight, of 100 cc. of water, 7.5 mEq. of sodium, and 7.5 mEq. of potassium, which will have to be replaced. However, some of this loss (particularly the intracellular portion) represents actual breakdown of protoplasm and cannot be replaced until food is taken and new protoplasm is formed. Thus, for purposes of immediate fluid replacement, our rule is that in cases of 10% dehydration one should replace, per kilogram of body weight, only 80 cc. of water, 6 mEq. of sodium, and 4 mEq. of potassium. Unfortunately, we have no method other than clinical judgment for estimating the amount of weight lost by the patient before he comes to us. In practice, if dehydration seems severe, we assume 10% weight loss and proceed to replace water, sodium, and potassium in the quantities mentioned. In milder states we may assume only 5% dehydration and give half the quantities recommended.

To proceed with our example, if our 2-year-old child, weighing 12 kg., with a surface area of 0.5 square meters, is admitted with diarrhea and severely dehydrated, we would use the rule of giving, per kilogram, 80 cc. of water, 6 mEq. of sodium, and 4 mEq. of potassium, and our figures for this 12 kg. child would be, for correction of dehydration, water, 960 cc.; sodium, 72 mEq.; and potassium, 48 mEq. To this we add the daily maintenance requirements based on a surface area of 0.5 square meters: water, 750 cc.; sodium, 15 mEq.; and potassium, 10 mEq. We thus arrive at a total of: water, 1,710; sodium, 87 mEq.; and potassium, 58 mEq.

At this point we must recall that we have already administered a certain volume of initial mix, namely, 30 cc. per kilogram, or in this case 360 cc. This initial mix contains, per liter, 75 mEq. of sodium, so that we have given 360 cc. of water containing 27 mEq. of sodium, and these figures must be subtracted from the total daily needs. The adjusted figure is then: water, 1,350; sodium, 60 mEq.; and potassium, 58 mEq. The figure 1,350 could be rounded off to 1,500, and so to prepare this solution one might take 1,500 cc. of 10% invert sugar, add 20 cc. of 3 M sodium chloride and 19 cc. of 3 M potassium chloride. In practice, however, since sugar solutions come in 500 cc. and 1,000 cc. sizes, we would use 1 liter of 10% invert sugar, to which we would add two-thirds of the electrolyte, this to be followed by a half-liter bottle containing one-third of the electrolyte, and all to run in over 24 hours.

This method of figuring, although perhaps appearing complicated at first, becomes remarkably simple with practice, has the virtue of being based on sound physiological principles, and has given us gratifying clinical results. A special advantage of this method of prescribing is that for each patient a mixture is prepared that is suited to his own needs, and this mixture is designed to provide for all his needs for a full 24 hour period. Other methods of therapy, which utilize ready-

4. Darrow, D. C., and Pratt, E. L.: Diarrhea, in Pediatrics, ed. 12, New York, Holt & McIntosh, 1953, p. 247.

made sodium and potassium mixtures, are less easy to adapt to the needs of the individual patient and often involve changing solutions several times during the day. The objection may be raised that our extemporaneously prepared mixtures are always hypertonic, containing 10% sugar with added salt. This is true; yet in practice we have had no more difficulty with thrombophlebitis than we have seen with use of isotonic fluid.

PRECAUTIONS TO BE OBSERVED

The dangers of hyperpotassemia are well known. For this reason in giving potassium certain precautions must be observed. First, we withhold potassium until we are sure that the patient is voiding. Secondly, the daily allowance of potassium is made to run in slowly over the entire 24 hour period. In case the infusion stops and time is lost, we may have to speed up the rate of flow toward the end of the day, but in no case is the total daily allowance of potassium permitted to be absorbed in less than six hours. Finally, we withhold or postpone potassium therapy in patients with clinical evidence of disease known to predispose to hyperpotassemia. Such conditions are nephritis, lower nephron nephrosis, severe burns, extensive crushing injuries, and adrenocortical failure. With the foregoing exceptions, it will be found that patients tolerate large amounts of potassium provided it is given slowly and continuously over a 24 hour period. Butler [5] has found that the normal adult can tolerate up to 225 mEq. of potassium per square meter of body surface per day. Only in the exceptional cases such as those mentioned do we find it necessary to utilize the electrocardiogram or the flame photometer to detect evidence of excessive circulating potassium.

Certain special conditions may require modification of the routine outlined. One such is dehydration due to vomiting (as in pyloric stenosis), where alkalosis may be present. Here, in treating the dehydration our initial mix is better made without sodium lactate. Instead we use half-normal saline; that is, 1 liter of 5% glucose to which is added 75 mEq. of sodium chloride. Except for this modification our routine in alkalosis is the same as in dehydration with acidosis. Patients with severe burns constitute another special problem to which the present routine would not apply. Currently, we are using the program of fluid therapy outlined by Evans [6] for the management of severe burns. Patients with renal failure, as in so-called lower nephron nephrosis, also present a special problem, which is beyond the scope of the present paper.

In general, we believe that all patients maintained on parenterally administered fluid more than four or five days deserve special supervision. In these cases, although we continue to follow the outline of therapy presented, we prefer to check our therapy by determinations of serum chloride and bicarbonate levels every two or three days. We watch particularly for depression of serum chloride and elevation of serum bicarbonate level (hypochloremic alkalosis). Such signs would indicate hypopotassemia and the need for additional potassium therapy. In patients receiving prolonged intravenous therapy we also test the urine daily for acetone (since it is virtually impossible to provide adequate calories by the intravenous route) and for chloride, by the simple bedside quantitative test of Fantus.[7] If the urinary chloride level is less than 1 gm. per liter, we give additional sodium chloride.

Although these precautions need to be observed, it is noteworthy that, in the vast majority of our patients who have no renal disease and in whom therapy is continued only two to four days, we have simply adhered to the rules of therapy as outlined and have not found it necessary or even helpful to measure serum electrolyte levels. Dehydration, acidosis, and deficiencies of sodium, potassium, and chloride have corrected themselves promptly without clinical evidence of any inaccuracies in therapy.

It should be noted that everything already discussed refers to intravenous therapy only. It is our feeling that any patient who deserves parenteral therapy deserves intravenous therapy. The subcutaneous route does not permit the prescription of ideal mixtures of sugar and electrolyte or the proper control of their rates of absorption. With modern equipment, including special scalp vein needles,[8] one seldom has to resort to surgery to get a needle into a vein and hardly ever needs to be content with any less effective route for parenteral therapy. It might be added that the principles outlined here can perfectly well apply, without change, to adult patients as well as to children.

SUMMARY

For the conduct of intravenous fluid and electrolyte therapy in medical and surgical patients of the pediatric age group, we employ only five different solutions, i. e., 5% glucose, 10% invert sugar, 3 M sodium chloride, 3 M potassium chloride, and 1 M sodium lactate. For each patient, once each day, a proper mixture of these solutions is prepared to provide for all his needs for a 24 hour period. In prescribing these fluids we give the following amounts of fluid: (1) for daily maintenance, per square meter of body surface, 1,500 cc. of water, 30 mEq. of sodium chloride, and 20 mEq. of potassium chloride; (2) for replacement of current abnormal losses (diarrhea, vomiting, gastric suction, etc.), per liter of such fluid lost, 1,000 cc. of water, 135 mEq. of sodium chloride, and 15 mEq. of potassium chloride; (3) for correction of dehydration, assuming 10% weight loss through dehydration, per kilogram of body weight, 80 cc. of water, 6 mEq. of sodium chloride, and 4 mEq. of potassium chloride (for moderate dehydration, only half these quantities); and (4) for beginning therapy of dehydrated patients, a potassium free "initial mix" containing, per liter, 50 mEq. of sodium chloride and 25 mEq. of sodium lactate. Potassium is given only after renal function has been reestablished. Certain precautions must be observed in the application of these rules, particularly in regard to the dangers of potassium therapy.

3503 Prytania St.

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SURGICAL TREATMENT OF BRONCHIECTASIS IN CHILDREN

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A previous study [1] summarized the over-all results in a series of 221 patients of all ages who underwent surgical resection for bronchiectasis. The present study represents an evaluation of the 30 children, ranging in age from 5 to 14 years, included in that series. Fourteen of the patients were boys, and 16 were girls. Pulmonary resection was carried out in all instances, with the patient under general endotracheal anesthesia; a posterolateral incision was used, with individual ligation of hilar structures. All patients were operated on prior to December, 1952, and all were followed by direct observation of the child and by follow-up letter. Preoperative bronchoscopy was done in all cases, as were bronchograms. Pathological examination confirmed the clinical impression in all cases.

CLINICAL RESULTS

The clinical results in this series of 30 cases were good in 18 (60%), fair in 7 (23.3%), and poor in 4 (13.3%). No operative deaths occurred, but one patient died several months after operation as the result of progressive sepsis. A good result was one in which the patient was returned to full activity and had few or no remaining symptoms. A fair result indicated that some limitation of activity was present but that the residual symptoms were not incapacitating. A poor result designated either little improvement or worsening after operation. These results compared unfavorably with those obtained in the aforementioned series of 221 patients of all ages, in whom good results were noted in 75%, fair results in 16%, and poor results in 5%. The remaining 4% represented deaths. Bilateral resection was not done in this series of children. Two pneumonectomies were carried out. The remaining patients underwent unilateral resection. Table 1 summarizes the extent of pulmonary resection and the respective results.

COMPLICATIONS

The postoperative complications encountered were retention of secretion, pleural effusion requiring thoracentesis, bronchopleural fistula, and pneumothorax. Table 2 outlines the incidence of these complications. This presents a striking contrast to the incidence of complications seen in the series of patients of all ages, in which they occurred less than half as frequently. Retention of secretion requiring postoperative bronchoscopy occurred in 60% of these children. This is to be compared with an incidence of 25.8% in the larger series of 221 patients. We consider that this increase in postoperative retention of secretion in children is directly related to their failure to cough sufficiently after thoracotomy. Since this study, therefore, we have liberalized the indications for doing concomitant tracheotomy at the time of thoracotomy in order to mitigate retention of secretion and help prevent the bronchoscopy that such retention necessitates. It is our impression that the more frequent use of concomitant tracheotomy will serve to improve the postoperative course of these children and thereby enhance the possibility of good results.

TABLE 1.—*Extent of Operation Related to Results*

Extent of Resection	Results			
	Good	Fair	Poor	Dead (Late)
Pneumonectomy	1	0	0	1
Unilateral, 1 lobe	7	3	1	..
Unilateral, 2 lobes	10	4	3	..

TABLE 2.—*Complications of Pulmonary Resection in Thirty Cases*

Complication	Cases	
	No.	%
Retention of secretion	18	60.0
Pleural effusion	3	10.0
Bronchopleural fistula	2	6.6
Pneumothorax	1	3.3

NEW BRONCHIECTASIS

Documented new bronchiectasis was found after operation in 5 of the 30 children (16.6%). This is doubtlessly a minimal figure, since postoperative bronchograms were done on only 13 patients. In addition, two patients had proved progression of residual disease. Unsatisfactory results were observed in all of these seven patients with new or progressive bronchiectasis. As compared with the previously mentioned study, this shows increased tendency toward formation of new and progressive bronchiectasis in children and further explains the poorer results in their treatment by pulmonary resection.

RESIDUAL BRONCHIECTASIS

All pulmonary tissue involved with bronchiectasis was resected in 16 of the 30 patients in this series; 11 (69%) of this group obtained good results. The remaining 14 patients manifested some residual disease; 7 (50%) of this group obtained good results. Only one of three patients with ipsilateral residual disease had good results. We believe these figures, though small in number, show a trend associating residual disease with poorer results.

COMMENT

It was disappointing to find that the results after surgical treatment of bronchiectasis in children were not so good as the results in a series that included patients of all age groups. Certain factors appear to be implicated. A definite increase in the incidence of postoperative complications, particularly retention of secretion, was noted in children. These young patients also showed an increased tendency for postoperative development of new bronchiectasis, a particularly serious complication in children. It appears to us that the afore-mentioned factors play an important role in determining the results of surgical treatment of bronchiectasis in children. Also, possibly incomplete development or increased susceptibility to infection contribute to the different results obtained in treatment of this disease in children and adults.

From the Mayo Clinic and the Mayo Foundation. The Mayo Foundation is a part of the graduate school of the University of Minnesota.

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ANGINA PECTORIS INDUCED BY FAT INGESTION IN PATIENTS WITH CORONARY ARTERY DISEASE

BALLISTOCARDIOGRAPHIC AND ELECTROCARDIOGRAPHIC FINDINGS

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and
Claude R. Joyner Jr., M.D., Philadelphia

While performing oxygen tension determinations directly on the exposed dog's myocardium, which had been previously infarcted by experimental ligation of a small branch of the left anterior descending coronary artery, we observed a drop in the oxygen tension readings following a slow intravenous injection of 15 to 20 cc. of a fat emulsion preparation. Coinciding with this drop in the oxygen tension readings, an apparent decrease in the amplitude of myocardial contraction was noted.[1] These observations suggested to us that in humans the chylomicrons of postprandial lipemia might exert a similar adverse effect on the myocardium and that this effect is probably small and might most easily be demonstrable in patients whose myocardial blood supply is already compromised by severe coronary atherosclerosis and/or aortic valvular disease.

The purpose of this investigation was to determine whether postprandial lipemia would actually precipitate the syndrome of angina pectoris and produce abnormal electrocardiographic and ballistocardiographic changes in a group of patients known to have potential coronary artery insufficiency as a result of severe coronary artery disease and/or aortic stenosis and insufficiency. Since a number of investigators had noted a striking tendency to deterioration of the ballistocardiograms after smoking, with precipitation of angina pectoris in a high percentage of patients with coronary artery disease,[2] a ballistocardiographic cigarette test was performed on this series of patients for comparison with the effects of fat ingestion investigation.

MATERIAL AND METHODS OF STUDY

In our attempt to establish a definite relationship between alimentary lipemia and angina pectoris, it was obviously desirable to study a group of patients in whom the diagnosis of angina pectoris was firmly established. This group of 14 patients from the wards and clinics of the Hospital of the University of Pennsylvania consisted of 11 patients with coronary artery disease and old myocardial infarction; one patient with idiopathic hyperlipemia and three previously known episodes of myocardial infarction; one patient with familial hypercholesteremia who had suffered from at least one documented attack of coronary insufficiency with transient electrocardiographic changes persisting for two days; and one patient with a severe degree of aortic stenosis complicated by mild aortic insufficiency, probably rheumatic in etiology. Routine electrocardiograms showed characteristic patterns of old myocardial damage in 11 of the 14 patients. The tracings of two patients were suggestive of left ventricular hypertrophy, while that of the remaining patient was within the limits of normal.

Lipemia was induced in each of these patients by a fatty meal consisting of heavy cream (40% butter fat by weight) flavored with cocoa, and sweetened to taste with cyclamate (Sucaryl). The amount of fat given varied with the patient's size, being 0.6 gm. of butterfat per pound of body weight. The patient was instructed to take nothing by mouth after supper the day before the test, and smoking was not permitted on the morning of the test. After taking a series of control electrocardiograms, ballistocardiograms, and a fasting blood sample, the fatty meal was given to the patient. Samples of venous blood were taken at one-half, one, two, three, four, five, and occasionally six hours afterward. Some water was allowed, but the patient was not permitted to have tobacco or food during the period of the test. The patients remained at rest during the entire study period, either sitting quietly or lying down as they wished. For the lactescence study, 7.5 ml. of venous blood was mixed with 0.5 ml. of a M/10 solution of sodium oxalate. The specimens were centrifuged at approximately 3,000 rpm for 10 minutes. The turbidity of the plasma was determined by means of a Klett-Summerson photoelectric colorimeter. A red filter (640 to 700 mμ) was used to minimize serum color and slight degrees of hemolysis. Occasional checks were carried out by making duplicate readings on a Coleman junior spectrophotometer set at 650 mμ. All results are expressed in terms of the readings obtained from the Klett apparatus.

For purposes of control, a meal of the high-protein supplement, Protenum, and the carbohydrate milk modifier, Dextri-Maltose, containing no fat but having the same bulk and caloric content as the fat meal, was administered to three of these patients who had previously shown a positive response to the fat meal test. The procedure used for this test was essentially the same as the

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Trainee, National Heart Institute, National Institutes of Health (Dr. Joyner).
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The 10% sesame oil and 5% dextrose emulsion for animal investigation was supplied by Merck & Co. Inc., Rahway, N. J.
Mrs. Francis A. Eddicks and Mrs. Elizabeth K. McCauley of the Metabolic Diet Kitchen assisted in this study.

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one outlined for the fat meal test. A complete set of electrocardiograms, including three standard limb leads and chest leads, was taken on the patient before each test meal. The limb and V_4 chest leads were taken one-half, one, two, three, four, and five hours after he had ingested the meal; also, at these times plasma was drawn for lactescence studies and a ballistocardiogram was made.

All ballistocardiographic studies were made on a high frequency Starr-type ballistocardiograph and were recorded by either a single channel or a double channel Sanborn direct-writing recorder. Each patient was studied after resting for 15 or 20 minutes just before and at various intervals after the meal. An almost continuous ballistocardiogram with lead 2 of the electrocardiogram was taken on patients who developed anginal pain during the test, until a complete relief of the discomfort was experienced by the patient. The cigarette test was given by obtaining a resting electrocardiogram and ballistocardiogram before the patient smoked a standard brand cigarette. Ballistocardiograms and electrocardiograms were repeated immediately and five minutes after the patient had finished smoking. The test was considered to be positive if the smoking had precipitated an anginal attack and/or if a definite increase in the abnormal findings appeared in the electrocardiogram and ballistocardiogram.

RESULTS

Precipitation of Angina Pectoris.—A total of 14 typical attacks of angina pectoris were precipitated in 6 of this series of 14 patients by the fat meal method. One of our first patients with idiopathic hyperlipemia developed

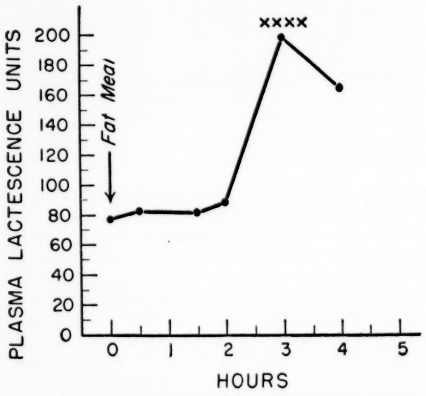

Fig. 1.—Average plasma lactescence curve of patient with idiopathic hyperlipemia and coronary artery disease after fat ingestion.

severe pain on four different occasions. Each attack came regularly three hours after fat ingestion. In each instance, the discomfort was readily relieved by glyceryl trinitrate (nitroglycerin). Two patients with arteriosclerotic heart disease and old myocardial infarction each experienced three attacks of angina four and one-half to five hours after the fatty meal. Two attacks were precipitated in one patient and one attack each in the remaining two patients four and one-half to five hours after the administration of the fat meal test. According to these six patients, the character of the discomfort induced by fat ingestion was identical with that of the effort angina they all knew so well. About one-third of the times, these anginal attacks had to be terminated by the administration of glyceryl trinitrate, while the remaining attacks were promptly controlled by intravenous injection of a

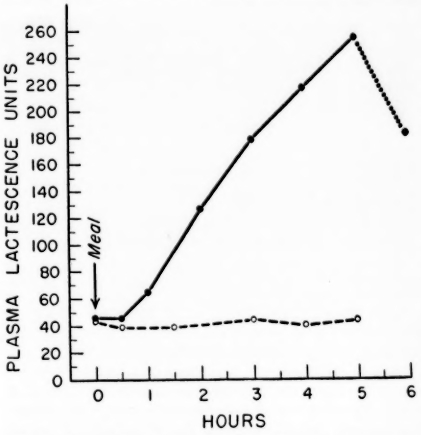

Fig. 2.—Average plasma lactescence curve of 13 patients with coronary artery disease over a period of five hours after fat ingestion (solid line). Average plasma turbidity of three of these patients where the studies were carried out to six hours (solid dots). Plasma lactescence levels observed in three patients after the ingestion of a nonfat meal (broken line).

small dose of heparin. The details of this study will be reported elsewhere. Two additional patients of this group gave a doubtful positive response to the fat meal test, in that they developed relatively mild and short attacks of substernal discomfort about five hours after their ingestion of the test meal.

Correlation Between Plasma Lactescence and Onset of Angina Pectoris.—Figure 1 is a graphic presentation of the averages of the hour-to-hour postprandial plasma turbidity level of four fat meal tests in a 32-year-old white male with idiopathic hyperlipemia. The history indicated that the patient suffered from his first attack of coronary occlusion with myocardial infarction at the age of 23. He had been treated elsewhere for two other episodes of similar nature in the past nine years. Frequent attacks of anginal pain and dyspnea prompted his admission to this hospital. A routine electrocardiogram showed a left bundle-branch block pattern and evidence of old anterior wall damage. His postprandial plasma turbidity curve shows: (1) an unusually high degree of turbidity of the fasting specimen, (2) little or no tendency for the curve to rise in the first two hours following the ingestion of a meal, and (3) a sudden elevation of the optical density readings to a peak about three hours after the meal. Severe and prolonged attacks of anginal pain were observed to occur at this time on four different occasions (indicated by XXXX in figure 1). These attacks

were all relieved at variable intervals after administration of glyceryl trinitrate. On one occasion, the blood specimen obtained about an hour after the attack of angina (four hours after meal) showed a drop in the plasma lactescence level.

The solid line in figure 2 represents a curve of the average plasma lactescence values following test meals in the 13 remaining patients with severe coronary artery disease and angina pectoris. This curve shows a gradual rise of

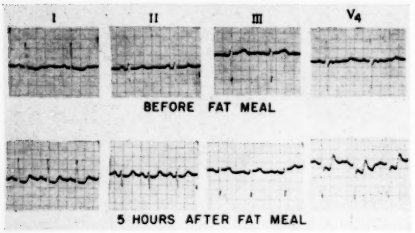

Fig. 3.—Electrocardiograms obtained in patient with coronary artery disease before and after fat meal. The lower tracing was taken while the patient was having anginal pain.

the turbidity level to its peak about five hours after fat ingestion, which is considerably later than that of the patient with hyperlipemia presented in figure 1. Without exception, the individual plasma lactescence curves of these 13 patients follow the composite curve very closely. Interestingly enough, each of the 10 attacks of angina pectoris observed in this group of patients was found to occur about four and one-half to five hours after the fat meal, while plasma lactescence was at or near its peak value.

The dotted line in figure 2 is a curve of the average plasma turbidity values, following the ingestion of nonfat meals, obtained from three of the six patients who had

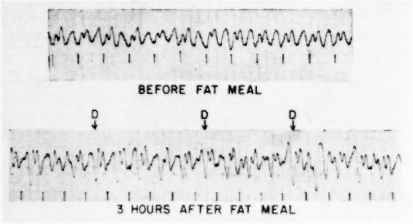

Fig. 4.—Ballistocardiograms obtained from patient with idiopathic hyperlipemia and coronary artery disease. "D" in the lower tracing indicates the appearance of a larger V-shaped early diastolic wave with the onset of angina pectoris. Markers denote R waves in electrocardiogram.

previously developed anginal pain with a fatty meal. The curve is low and remains essentially flat throughout the period of study. No anginal pain was elicited in any of the three patients after the ingestion of the nonfat meal.

Effects of Fat Meal on Electrocardiogram.—The control electrocardiograms of all except one of this series of patients were abnormal. None of the patients showed a significant change in the electrocardiogram sooner than three hours after the meal. With the onset of angina pectoris, three to five hours after fat ingestion, definite changes in the electrocardiogram were noted in four of these patients. These changes were transitory, disappearing promptly with the subsidence of anginal pain. An increase in cardiac rate, an increased depression of the already depressed RS-T segment of more than 0.50 mm., and a shift in the amplitude of the T waves were found in three of these four patients. A lowering of the amplitude of the T waves was recorded in two patients together with the RS-T segment depression. The T wave in a 54-year-old female with hypertension and severe coronary artery disease became more upright in the limb and chest leads, while the RS-T segment was markedly depressed during the attack. Her control and five-hour postprandial tracings are shown in figure 3. The remaining patient showing electrocardiographic changes developed frequent ventricular extrasystoles soon after the onset of chest pain four and one-half hours after the meal but showed no distinct alteration in the RS-T segments in the electrocardiogram.

Effect of Fat Meal on Ballistocardiogram.—Twelve of the 14 patients in this series have very abnormal ballistocardiograms. No distinct change from the control tracing

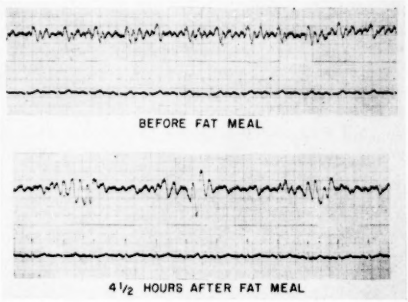

Fig. 5.—Ballistocardiograms obtained from patient who developed angina pectoris.

could be detected in any of the patients before the onset of anginal pain, three to five hours after the ingestion of a fat meal. In six patients, extremely marked changes in the ballistocardiogram were observed during each of the 14 attacks of angina thought to be precipitated by the fat meal; of these patients, evidence of gallbladder disease was found in only one. The abnormal ballistic changes were found to persist the duration of the anginal attack; the record would gradually return to the control pattern 10 to 15 minutes after the patient was free of pain. Figure 4 shows ballistocardiograms of a patient with hyperlipemia, coronary artery disease, and congestive failure made before and three hours after the fat meal with the development of angina. The control ballistocardiogram before the fat meal is markedly abnormal, with a short I wave, wide and notched J wave, and prominent diastolic waves. The tracing taken immediately after the appearance of chest pain, three hours after the fat meal, shows a completely different ballistocardiographic pattern. Besides the prominent respiratory variations, the amplitudes of the diastolic waves (D) are greatly exaggerated and in-

terfere with the inscription of the systolic ballistic complexes. The patient was quite dyspneic at this time, and a prominent diastolic gallop, probably of the summation type, became audible and palpable at the cardiac apex.

Another example of the ballistocardiographic changes induced by the fat meal is shown in figure 5. These tracings were obtained from a 58-year-old female with coronary artery disease with old myocardial infarction and angina pectoris. Her control ballistocardiogram (fig. 5, top) shows grossly abnormal ballistic complexes with prominent respiratory variations in the amplitudes of systolic ballistic complexes. The record reproduced in figure 5, bottom, was made during one of her attacks of anginal pain four and one-half hours after taking the fat meal. The respiratory variations in the ballistocardiographic complexes have become greatly exaggerated. Furthermore, the over-all amplitude of many of the systolic complexes is markedly decreased. Hence, during expiration, one has great difficulty in identifying the systolic ballistic complexes. The large irregular groups of vibratory waves are produced by exaggerated respiratory movements because: (1) at the time of recording, these waves were found to correspond to heavy breathing the patient was exhibiting at that time, (2) the vibrations did not have a constant relationship with the QRS complexes in the electrocardiogram, and (3) they disappeared when the patient held her breath in any phase of respiration.

The series of tracings shown in figure 6 taken in a patient with hypertension and severe coronary artery disease give another example of the abnormal ballistic

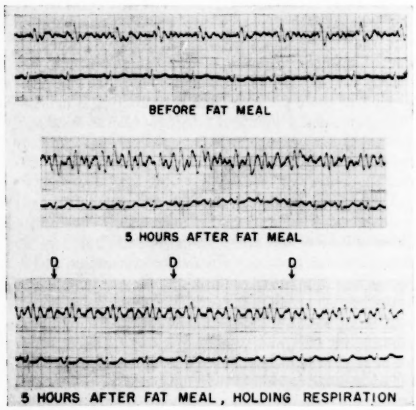

Fig. 6.—Ballistocardiograms of patient with coronary artery disease. The two lower tracings were recorded while the patient was having anginal pain. "D" in bottom tracing indicates the appearance of a V-shaped wave in diastole.

waves. The systolic ballistic complexes in the control record of this patient (fig. 6, top) appear to be fairly distinct and regular, although they may be a little low in amplitude. The diastolic waves are relatively small throughout. The tracings became grossly abnormal five hours after fat ingestion, several minutes after the onset of substernal distress. The ballistocardiogram became totally disorganized at this time, and it was impossible to identify any of the systolic ballistic complexes. During the test, we observed that most of the body movements were actually caused by exaggerated breathing. The bottom tracing was made while the patient was asked to hold her breath momentarily. This promptly eliminated a large number of the extraneous waves and permitted proper identification of the ballistic complexes. Analysis of the

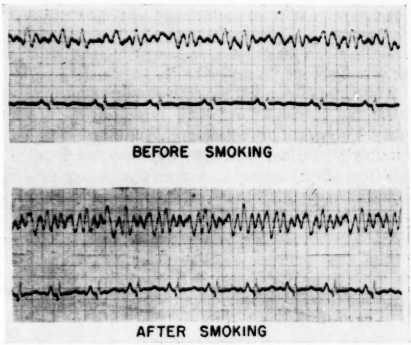

Fig. 7.—Ballistocardiograms of patient with coronary artery disease and healed myocardial infarction before and after smoking a standard brand cigarette.

ballistocardiogram as shown in figure 6, bottom, indicates that during angina pectoris, in addition to the greatly increased respiratory movements, the following changes appeared: 1. The H waves became more prominent than before the attacks. 2. A large, roughly V-shaped, mainly footward wave (D) appeared in mid-diastole. Although this V-shaped wave did not approach the size of the diastolic wave shown in figure 4, bottom, they appeared to be quite similar in most respects.

Effect of Smoking on Ballistocardiogram.—A cigarette test was performed on 11 of these 14 patients, and a positive test consisting of a definite deterioration of the systolic ballistic complexes was obtained in 3 patients. An example of a positive cigarette test is shown in figure 7. The ballistocardiograms were made in a 62-year-old Negro with coronary artery disease and healed myocardial infarction before and after smoking one standard brand cigarette. None of the 11 patients developed typical anginal attacks after smoking.

COMMENT

The well-known clinical observation that patients with coronary artery disease tend to have exaggeration of symptoms shortly after a meal has been studied by a number of investigators.[3] It has been the opinion of most authors that the increased incidence of anginal pain after meals is probably due to an increase in cardiac work or to reflex constriction of coronary arteries as a result of gas-

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tric distention.[4] By giving the patient a fat meal that was both relatively small in volume and slow in rate of absorption from the gastrointestinal tract, we were able to minimize the early deleterious effects of a meal on the circulation of patients with severe coronary artery disease. This made it possible for us to study and demonstrate that postprandial lipemia, which attained its peak level several hours after food ingestion, may also provoke symptoms of angina pectoris in these patients.

In our early attempt to find out whether there is a definite cause and effect relationship between postprandial lipemia and the onset of angina pectoris in patients with severe coronary artery disease, we were misled by early response of our first patient with idiopathic hyperlipemia and concluded our study three hours after fat feeding. Two of our patients informed us that they would invariably get anginal pains soon after they had returned home from our laboratory after each test. Repeating the test and carrying it out to five and more hours promptly confirmed the observations made by these two patients. Indeed, a prolonged observation on the plasma lactescence of these patients indicated that their peak blood lipid levels were actually attained about five hours after the meal, instead of three hours after the meal as was the case in our first patient.

Although individual differences in fat tolerance have been observed in normal subjects, numerous investigators have found that chylomicrons of young persons reach a peak at two and one-half to three hours after meals, while the chylomicrons of older people and patients with coronary artery disease do not reach a peak until five or more hours have elapsed. The degree of alimentary lipemia is also increased in older individuals as compared with normal young subjects.[5] Therefore, excepting patients with pathological sustained hyperlipemia, it was not unexpected that the effects of postprandial lipemia were manifested as late as five hours after fat ingestion. We wonder whether this slowly rising and prolonged lipemia might not be considered as one of the factors responsible for the production of the syndrome of angina decubitus. Also, it might explain the ease with which angina pectoris may be precipitated in certain individuals after a certain meal of the day. A study of 24-hour plasma turbidity levels with regard to eating habits of these patients might throw more light on this possibility.

The data obtained in this small and selected group of patients further confirm the works of Starr, Brown, Scarborough, Berman, and others[6] that, as an objective method, ballistocardiography is a valuable method for detecting myocardial ischemia in patients with coronary artery disease. During the course of the present study, there were a number of occasions where marked changes were clearly discernible in the ballistocardiogram after the onset of angina pectoris in these patients, when no significant change was demonstrated in the electrocardiogram.

Ballistocardiograms made on patients during an attack of angina pectoris revealed the respiratory variations and vibrations and a decrease in the amplitude of the ballistic complexes reported by others.[7] In addition, we observed the apparently sudden appearance of a V-shaped diastolic ballistic wave and an increase in the height of the H waves. In one of our patients, the V-shaped wave became very large, and a prominent gallop was both audible and palpable at that time. Since previous workers have related the large diastolic ballistic wave and the prominence of the H wave to waves of ventricular filling,[8] these hemodynamic changes observed suggest that, with the onset of myocardial ischemia and perhaps the resulting decrease in cardiac output (evidenced by decrease in systolic ballistic complexes), various mechanisms are being brought into play to cause a sudden exaggeration of the ventricular filling waves. The relatively low incidence of positive response to the cigarette test in this series of patients can be explained by the fact that practically all of these patients have very abnormal ballistocardiograms, and a significant degree of deterioration of the already very disorganized record can appear only after the onset of a marked degree of circulatory disturbance.

It is not our intention to develop the fat ingestion test as a diagnostic procedure for angina pectoris. We merely wish to point out that postprandial lipemia could under certain circumstances exert a deleterious effect on the myocardium in a heart whose coronary circulation is already compromised by disease. This observation would, therefore, provide another rationale for the use of a low-fat diet in patients with angina of effort.[9] The development of this method that can help to control the development of anginal pain in this group of patients has provided us with opportunities to study the effects of various drugs and diets thought to be beneficial to patients with coronary atherosclerosis. Our studies made on these patients with heparin and low-fat diet will be reported elsewhere.

SUMMARY

Lipemia was induced in 14 patients with angina pectoris by a standard fat meal. Six of these patients developed a total of 14 typical attacks of angina pectoris while at rest three to five hours after the ingestion of a fat meal. None of the patients tested showed any subjective or objective evidence of coronary insufficiency shortly after

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6. (*a*) Starr, I., and Mayock, R. L.: On the Significance of Abnormal Forms of the Ballistocardiogram: A Study of 234 Cases with 40 Necropsies, Am. J. M. Sc. **215**: 631-650 (June) 1948. (*b*) Brown, H. R., Jr.; Hoffman, M. J., and de Lalla, V., Jr.: Ballistocardiographic Findings in Patients with Symptoms of Angina Pectoris, Circulation **1**: 132-140 (Jan.) 1950. (*c*) Davis and others.[2b] (*d*) Berman and others.[2c]

7. Berman and others.[2c] Starr and Maycock.[6a] Brown and others.[6b]

8. Nickerson, J. L.: Some Observations on the Ballistocardiographic Pattern, with Special Reference to the H. and K Waves, J. Clin. Invest. **28**: 369-377 (March) 1949. De Lalla, V., Jr.; Epstein, M. A., and Brown, H. R., Jr.: Analysis of the H Wave of the Ballistocardiogram, Circulation **2**: 765-769 (Nov.) 1950. Kuo, P. T.; Schnabel, T. G., Jr., and Kay, C. F.: On Certain Abnormal Ballistic Complexes: Their Relationships to Other Mechanical and Electrical Events of the Cardiac Cycle, ibid. **6**: 74-81 (July) 1952.

9. Urbach, F.; Hildreth, E. A., and Wackerman, M. T.: The Therapeutic Uses of Low Fat, Low Cholesterol Diets: I. Treatment of Essential Familial Xanthomatosis, J. Clin. Nutrition **1**: 52-65 (Sept.) 1952.

the meal. By following the hour-to-hour postprandial plasma lactescence levels of these patients, it was noted that attacks of anginal pain would invariably occur at or near the peak of the lipemic curve.

Four patients developed definite but transient changes in the electrocardiogram with their attacks of angina pectoris. These changes included an increase in heart rate, an increased depression of the RS-T segment, a change in the amplitude of the T waves, and the appearance of ventricular extrasystoles. Very marked ballistocardiographic changes were observed in these patients during an attack of anginal pain induced by a fat meal. They were: (*a*) large vibratory wave of respiratory origin, (*b*) an increase in the variability of the size of the ballistic complexes with respiration, (*c*) a decrease in the amplitude of the systolic ballistic complexes, (*d*) an apparent increase in the height of the H waves, and (*e*) the appearance of a prominent V-shaped wave in diastole. A definite deterioration of the ballistocardiogram was observed in 3 of the 11 patients after a cigarette test.

This study indicates that postprandial lipemia may exert a deleterious effect on the myocardium in patients whose coronary circulation is already severely compromised by coronary artery disease. For this reason a low-fat diet may well be useful in the management of patients with angina pectoris, as a measure to help prevent their pain. The lipemia-induced angina pectoris has provided an opportunity for the study of the effects of various drugs and diets upon symptomatic coronary artery disease.

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SPORADIC ACUTE ANICTERIC HEPATITIS ASSOCIATED WITH UPPER RESPIRATORY INFECTION

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Anicteric hepatitis occurring in the absence of epidemics of infectious hepatitis has been infrequently reported in the English language literature. Only three references have been located pertaining specifically to this condition in the past 15 years.[1] During the first seven months of 1954, 43 cases of anicteric hepatitis associated with upper respiratory infections were observed and treated. These cases occurred sporadically in young men at an Air Force base in Colorado. This illness deserves emphasis because of its unusual nature and the possibility of chronic sequelae if it is unrecognized. In the 43 cases observed, the age range of the men was from 17 to 32; a large majority were in the age group 17 to 22, as would be expected in a military population. Anicteric hepatitis was first encountered in these men in January, 1954, and sporadic cases have continued to appear to the time of this writing. These patients had no common association except for their assignment to the same Air Force base. They lived in different barracks in all areas of the base. They ate in several different dining halls and were engaged in a number of different types of training. There was no unusual incidence in any particular squadron or any particular area of the base. Forty-two patients were white, and one was a Negro. In none of these patients was there a history of previous jaundice; none had a history of receiving blood or blood derivatives within the preceding four months.

CLINICAL MANIFESTATIONS

At the time of admission, 41 of the patients complained of sore throat accompanied by fever or chills; the other 2 patients gave a history of an upper respiratory infection within the two week period preceding hospitalization. The onset of the illness was sudden in 34 cases and gradual in 9. By sudden is meant the appearance of chills or fever and the development of a sore throat over a period of a few hours. The upper respiratory infection responded well to antibiotic therapy and subsided within four to seven days; however, a majority of patients continued to have fatigue, malaise, or anorexia. During the first two weeks of hospitalization, 41 patients complained of sharp or aching pain in the epigastrium or liver area; 12 were troubled with nausea, but only 3 had attacks of vomiting. The lack of ambition and initiative in these patients was striking. During the active phase of liver involvement they were content to remain quietly in bed, and ambulation definitely seemed to aggravate the symptoms of fatigue and liver pain.

At the time of admission, the temperature was 100 F or over in 34 patients and 101 F or over in 20 of these. The fever disappeared in the majority of patients during the first week of hospitalization. Forty-one patients showed definite objective evidence of pharyngitis or tonsillitis on initial examination, and, of these, exudate was present in 17. The liver was palpable at the time of admission in 17 patients and became palpable in 17 others during the first week. In six patients the liver was not palpable until the second week of hospitalization, and in three it was not palpable during the entire period of observation. In those patients in whom the liver was palpable, the edge varied from 2 to 10 cm. below the right costal margin. In all patients there was tenderness to palpation or fist percussion of the liver area. This ranged from mild tenderness in six to severe tenderness in five, but, in the majority of cases, the tenderness was described by the patient as moderate. In 23 cases cervical or generalized lymphadenopathy was present early in the course. The spleen was palpable in 22 cases. Lymphad-

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1. (*a*) Zimmerman, H. J., and Thomas, L. J.: Anicteric Hepatitis: Report of 9 Sporadic Cases, Am. J. M. Sc. **216**: 545-550 (Nov.) 1948. (*b*) Denber, H. C. B., and Leibowitz, S.: Acute Anicteric Virus Hepatitis: Report of 30 Cases, J. A. M. A. **149**: 546-549 (June 7) 1952. (*c*) Domenici, T. J.: Hepatitis Without Jaundice and Without Hepatomegaly, New England J. Med. **240**: 88-91 (Jan. 20) 1949.

enopathy and splenomegaly persisted for two to three weeks in the majority of cases. In none of these patients was jaundice observed.

An initial throat culture was obtained on all cases. Beta hemolytic streptococci were isolated in 14 (32.6%) and pneumococci in 24 (55.8%) of the cases. During the period of hospitalization, laboratory studies were performed at 7 to 10 day intervals. These included total white blood cell count and differential count; tests of one minute and total serum bilirubin, cephalin-cholesterol

TABLE 1.—*Symptoms of Hepatitis in Forty-Three Patients*

	Patients	
	No.	%
Upper respiratory infection	41	95.3
Sudden onset	32	74.4
Gradual onset	9	20.9
Pain in epigastrium or liver area	41	95.3
Fatigue or malaise	39	90.7
Anorexia	31	72.1
Nausea	12	27.9

flocculation, thymol turbidity, bromsulphalein retention, sedimentation rate (Wintrobe), and heterophil antibody agglutination. In 22 cases the initial white blood cell count was 12,000 per cubic millimeter or greater. The initial differential counts were normal or showed an increase in neutrophils in 41 cases. In two cases there was an initial lymphocytosis of 50% or greater. After the patients' recovery from the upper respiratory infection, the total white blood cell count decreased to within a range of 5,000 to 11,000 per cubic millimeter, and in 22 cases a lymphocytosis of 50% or more developed. In seven cases there were 5 to 17% virocytes seen in the peripheral blood smear. In all cases the total serum bilirubin level was less than 1.5 mg. per 100 cc. Eleven patients had one or more abnormal liver function studies. Of the remaining 32 patients, liver function studies, which in 23 cases included three or more different tests, were normal. Heterophil antibody agglutinations were obtained in every case at least every 10 days during the period of hospitalization. In 39 cases the heterophil titer

TABLE 2.—*Signs of Hepatitis in Forty-Three Patients*

	Patients	
	No.	%
Initial temperature 100 F or over	34	79.7
Initial pharyngitis or tonsillitis	41	95.3
Hepatomegaly	40	93.0
Tender liver	43	100.0
Lymphadenopathy	23	53.5
Splenomegaly	22	51.2

was either negative or positive in a dilution of 1:28 or less. In four cases the heterophil titer was initially positive in a dilution of 1:56 but decreased under further observation. In no case was a rise of heterophil antibody titer observed.

2. (*a*) Barker, M. H.; Capps, R. B., and Allen, F. W.: Acute Infectious Hepatitis in the Mediterranean Theater, Including Acute Hepatitis Without Jaundice, J. A. M. A. **128**: 997-1003 (Aug. 4) 1945. (*b*) Finks, R. M., and Blumberg, R. W.: Epidemic Hepatitis With and Without Jaundice: Some Clinical Studies on 255 Patients Among Troops in a Combat Zone, Arch. Int. Med. **76**: 102-113 (Aug.) 1945. (*c*) Zimmerman, H. J.; Lowry, C. F.; Uyeyama, K., and Reiser, R.: Infectious Hepatitis: Clinical and Laboratory Features of 295 Cases, Am. J. M. Sc. **213**: 395-409 (April) 1947.

Pneumonia was present in two patients on initial examination. There was one case of bronchopneumonia, due to pneumococcus, and one case of diffuse patchy pneumonitis of unknown etiology. In one patient, during convalescence from hepatitis, appendicitis developed and an appendectomy was performed. All three of these patients made a complete recovery without any evidence of residual effects.

The initial upper respiratory infection was treated with intramuscular injections of procaine penicillin in 39 cases, oxytetracycline in 2 cases, and no antibiotic in 2 cases. After diagnosis of hepatitis, all patients were treated with bed rest and allowed bathroom privileges after the acute phase of their illness. A high-protein, high-carbohydrate diet with supplemental vitamins was given. Those patients with anorexia or nausea received glucose parenterally until the return of appetite.

The hospital stay of these 43 patients ranged from 18 to 155 days, with a median period of hospitalization of 28 days. The patients were considered to have recovered and were discharged from the hospital when they were asymptomatic concerning appetite and liver tenderness to fist percussion and when the sedimentation rate and any abnormal liver function studies had returned to

TABLE 3.—*Laboratory Findings in Forty-Three Patients*

	Patients	
	No.	%
Initial white blood cell count over 12,000 per cu. mm.	22	51.2
Lymphocytosis over 50% in 2nd and 3rd week	22	51.2
Total serum bilirubin level over 1.5 mg. per 100 cc.	0	0
Cephalin-cholesterol flocculation 3+ reaction or greater at 24 or 48 hr. (performed in 38 cases)	7	18.4
Thymol turbidity 4 units per 100 cc. or greater (performed in 25 cases)	4	16.0
Bromsulphalein retention over 5% at end of 45 min. (performed in 35 cases)	6	17.1
Heterophil antibody titer greater than 1:56 dilution	0	0
Sedimentation rate (Wintrobe) over 10 mm. in 1 hr.	23	53.5

normal. These men were placed on a regimen of restricted physical activity for varying periods of time, until they regained their strength and sense of well-being. Two patients required rehospitalization because of recurrence of anorexia, nausea, and pain in the liver area. One of these patients was rehospitalized two weeks after discharge from the hospital and the other one week after discharge; both subsequently made a complete recovery. At the time of discharge, 18 patients had a palpable liver, and 4 of these had a palpable spleen. Fourteen of these patients were followed on an outpatient basis for one to three months, and all abnormalities had disappeared at the end of the follow-up period except in two men who have nontender, palpable livers and normal liver function studies at the time of preparation of this paper. Four patients were not seen after release from the hospital.

COMMENT

Anicteric cases of hepatitis have been repeatedly recognized in epidemics of infectious hepatitis.[2] The importance of such cases in the epidemiology of infectious hepatitis has been pointed out, and the possibility of chronic liver disease developing in unrecognized cases has been mentioned.[2c] Since sporadic cases of icteric hepatitis occur, it has been postulated that sporadic cases of anicteric-type hepatitis may also occur. In reviewing the English

language literature, three reports of such cases occurring in adults have been found; one of 9 cases, one of 30 cases, and a third report of 4 cases.

Reports of Anicteric Hepatitis.—In the report by Zimmerman and Thomas [1a] eight of the nine patients had an acute onset, and three had mild sore throats initially. Epigastric and right upper quadrant pain was a common complaint in these patients and, in contrast to the patients presented here, they complained of flatulence. All nine patients had a palpable and tender liver or "queasiness" in the right upper quadrant and had either cervical or generalized lymphadenopathy. The white blood cell count ranged from low to normal, and two patients had a lymphocytosis of 44% and 50% respectively. Three patients had 5% eosinophilia or greater. Urinary urobilinogen was increased, and the bromsulphalein retention was abnormal in all cases. Thymol turbidity and cephalin-cholesterol flocculation tests were abnormal in four and five cases respectively. The heterophil antibody agglutination test was negative in the four cases in which it was performed. The authors noted that liver enlargement persisted after lysis of the fever. Of the eight patients who were followed after the first week, four recovered completely within three to eight weeks. One was asymptomatic after 3 weeks but continued to have abnormal liver function studies for 10 weeks, and three had persistent abnormalities for over 4 months.

Denber and Leibowitz [1b] observed 30 sporadic cases of anicteric hepatitis over a one and one-half year period. The most common symptoms in their cases were persistent fatigue, anorexia, distaste for smoking, abdominal pain, headache, and nausea. Thirty-three per cent of these patients complained initially of sore throat, and 23% had signs of pharyngeal inflammation. The liver was palpable in 56%, tender in 79%, and both palpable and tender in 51% of the cases. There was splenomegaly in 27% of the cases, and in 56% there was either generalized or cervical lymphadenopathy. Virocytes were noted in 16 of 26 cases but did not number over 10% of the total number of cells. These cells were identical with Downey cells. The thymol turbidity in these 30 patients was abnormal in all cases, and the cephalin flocculation was abnormal in 86%. The total serum bilirubin level was slightly increased to 1.2 to 1.9 mg. per 100 cc. in 25% of the cases. All patients recovered within 10 days to 4 months, except one patient with a chronically active case who, it was suspected, may have had serum hepatitis. In 28 of the cases heterophil agglutinations were performed, and in 6 the heterophil was positive in a dilution over 1: 56 but was not of diagnostic titer after absorption studies.

Domenici [1c] reported four cases of hepatitis without jaundice or hepatomegaly. His cases undoubtedly represent some type of parenchymal liver disease, probably viral in origin; however, they differ from the cases reported here, from those reported by Zimmerman and Thomas, and from those of Denber and Leibowitz. Abnormal findings in his cases were tenderness to percussion over the liver area and tenderness in the right upper quadrant. The liver function studies were intermittently abnormal throughout the course of the disease. The illness in these four cases was prolonged with psychological disturbances and lasted from four to six months.

Initially, the patients presented here had symptoms of an upper respiratory infection. This responded well to antibiotic treatment, and the patients became asymptomatic in this regard. In the majority of cases it was not until after the upper respiratory infection had been cured and the temperature had decreased to normal that the symptoms of liver disturbance became prominent. In contrast to the previously recognized cases of acute anicteric hepatitis, only a few of the patients presented here showed evidence by laboratory studies of liver dysfunction; however, in all cases, there were definite signs and symptoms of inflammation of the liver, frequently accompanied by other evidence of generalized disease.

Etiology.—At the present time the etiological agent of this illness is unknown. Three possibilities as regards etiology have been considered. These cases could represent an immune response of the liver to an acute infection, a viral hepatitis related to either the infectious or the serum hepatitides, or a disease related to infectious mononucleosis. The incidence of presenting upper respiratory infections is very high in this group of cases and considerably higher than that reported in the three other studies of sporadic anicteric hepatitis. It is known that the liver may become enlarged and tender after acute infections.[3] It has been stated that inflammatory changes in the liver may occur after sore throats and other acute infections as a tissue immune reaction, similar to that occurring in the kidneys in acute nephritis.[4] In such cases these abnormalities are usually transient, and persistence for 10 to 14 days is considered evidence of primary liver disease.[3] That the illness presented here is a response of the liver to acute infection is unlikely, since in 17 cases the onset of the upper respiratory infection and the evidence of liver disease appeared simultaneously, and in all cases the evidence of liver abnormalities persisted for at least two weeks. Instead, it seems most likely that the prodromal stage of this illness may predispose to upper respiratory infections.

In the other reports of anicteric hepatitis the authors have postulated that a virus was responsible for the illness.[5] In view of the normal or slightly low white blood cell count, the lymphocytosis, and the appearance of virocytes in some of the patients during the course of their hepatitis and after the disappearance of the upper respiratory infection, it would seem likely that these cases also represent a virus disease. Except for the lack of abnormal liver function studies and high incidence of preceding upper respiratory infections, these cases closely resemble the anicteric cases accompanying epidemics of infectious hepatitis.[2] In addition, cases of anicteric hepatitis similar to the cases presented here have been produced in human volunteers by the administration of material known to contain the virus of either infectious or

3. Harrison, T. R., and others: Principles of Internal Medicine, New York, Blakiston Company, 1950, pp. 1081-1085.

4. Cecil, R. L., and Loeb, R. F.: A Textbook of Medicine, ed. 8, Philadelphia, W. B. Saunders Company, 1951, pp. 761-764.

5. Zimmerman and Thomas.[1a] Denber and Leibowitz.[1b]

6. Neefe, J. R.; Stokes, J., Jr.; Reinhold, J. G., and Lukens, F. D. W.: Hepatitis Due to the Injection of Homologous Blood Products in Human Volunteers, J. Clin. Invest. **23**: 836-855 (Sept.) 1944. Neefe, J. R.; Stokes, J., Jr., and Gellis, S. S.: Homologous Serum Hepatitis and Infectious (Epidemic) Hepatitis: Experimental Study of Immunity and Cross Immunity in Volunteers: Preliminary Report, Am. J. M. Sc. **210**: 561-575 (Nov.) 1945.

serum hepatitis.[6] Anicteric hepatitis also occurs when infectious hepatitis is attenuated with gamma globulin,[7] and such cases also closely resemble those presented here. Thus, this disease may be a mild or attenuated form of infectious hepatitis.

The possibility that these cases may be a mild form of serum hepatitis has also been considered. Fifty-eight per cent of these patients had less than six months of military service and had had some type of vaccine administered parenterally at the time of entry into service; however, during the period of observation 10 cases of infectious hepatitis with jaundice were encountered, while there were no proved cases of serum hepatitis. The acute onset of the illness as well as the lack of any confirmed common icterogenic source of infection also is against this likelihood.

The greatest difficulty was in differentiating this syndrome from infectious mononucleosis. During the period of observation, 24 proved typical cases of infectious mononucleosis were encountered. In the majority of those cases there were abnormal liver function studies. The diagnosis of infectious mononucleosis was not confirmed in the cases presented here, despite the clinical similarity, because of the low percentage and lack of persistence of virocytes in the differential smear, plus the lack of a positive heterophil agglutination titer despite repeated examinations.[8] The possibility that these cases represent an atypical seronegative form of infectious mononucleosis has been considered. This question cannot be resolved until a specific diagnostic test for the etiological agent of both infectious hepatitis and infectious mononucleosis is developed.

Unless one considered the possibility of liver disease, these cases might easily have been misdiagnosed as unusual upper respiratory infections or as influenza. It is important that these cases be correctly diagnosed. They will help clarify the epidemiology of hepatitis as more specific tests are developed. In addition, because this illness may represent a type of infectious hepatitis, cases should be recognized so that the patients may be temporarily eliminated from the role of blood donors. The duration of the carrier state in infectious hepatitis has been shown in some cases to last for years.[9] With the ever-increasing popularity of the parenteral administration of blood derivatives, all possible icterogenic sources must be eliminated if a continual pyramiding of cases of homologous serum hepatitis is to be prevented.

Sequelae.—In addition, the possible long-term sequelae of this illness are still in doubt. There is a large body of evidence that points to viral hepatitis as a factor in the pathogenesis of chronic liver disease,[10] especially as alcoholism assumes a minor role in certain areas.[11] Many patients with cirrhosis have no history of jaundice,[12] which leads to speculation on the importance of anicteric attacks of hepatitis at the onset of the disease.[9] Despite the apparent benignity of the disease in this conservatively treated series, there were two patients who had evidence of activity four months from the onset, placing their disease in the chronic active phase as characterized by Barker.[10a] Both of these patients completely recovered; however, it should be pointed out that all of the cases presented here were in healthy young men who were placed on a regimen of limited activity for as long as necessary. In civilian populations with an older age group, or where continued exposure of the liver to other insults may occur during the disease, a complete recovery may not be the rule.

SUMMARY

The 43 patients with anicteric hepatitis associated with upper respiratory infections reported on showed typical symptoms and signs of parenchymal liver disease; however, only a minority of the patients presented any laboratory evidence of liver dysfunction. It is probable that these cases represent a virus disease related either to infectious hepatitis or to infectious mononucleosis. These patients were treated in the usual manner, with bed rest; high-caloric, high-protein diet; and glucose administered parenterally, when indicated. All patients responded well to treatment, and follow-up to complete recovery was accomplished in a majority of cases. The importance of these cases is emphasized in reference to the epidemiology of hepatitis, elimination of patients with this disease as potential blood donors, and the possible antecedence of this illness to chronic liver disease.

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8. Leibowitz, S.: Infectious Mononucleosis, Modern Medical Monograph 5, New York, Grune & Stratton, Inc., 1953, pp. 104-106.

9. Neefe, J. R.: Viral Hepatitis: Problems and Progress to 1954, Am. J. Med. **16:** 710-728 (May) 1954.

10. (*a*) Barker, M. H.; Capps, R. B., and Allen, F. W.: Chronic Hepatitis in the Mediterranean Theater: A New Clinical Syndrome, J. A. M. A. **129:** 653-659 (Nov. 3) 1945. (*b*) Gellis, S. S., and Hsia, D. Y. Y.: Medical Progress: Viral Hepatitis, New England J. Med. **249:** 400-409 (Sept. 3) 1953.

11. Kelsall, A. R.; Stewart, A., and Witts, L. J.: Subacute and Chronic Hepatitis, Lancet **2:** 195-198 (Aug. 9) 1947.

12. Kelsall and others.[11] Bloomfield, A. L.: The Natural History of Chronic Hepatitis (Cirrhosis of the Liver), Am. J. M. Sc. **195:** 429-444 (April) 1938.

Common Sense in Cancer.—Surgical attacks on highly malignant tumors, like trauma to streptococcal infections, may do more harm than good. They break the natural barriers. They spread the disease. When we remember that the blood and lymphatic vessels of highly malignant tumors are filled with tumor cells, it is clear that it is not often possible to excise such tumors completely. They have extended diffusely into the tissue spaces. They are systemic diseases. . . . Not all cancers are as virulent as hemolytic streptococci. Some are like staphylococci—locally destructive, tending to remain in one area. These cancers are like abscesses. They are amenable to surgical treatment. Squamous cell cancers, papillary cancers of the thyroid, and many of the cancers of the colon are biologically predetermined to remain localized for long periods and to metastasize chiefly to the regional lymph nodes. Many of them can be controlled by adequate excision of the primary tumor and its zone of lymphatic metastasis. The people who consider surgical attack harmful are wrong about these tumors. Most of them are curable. The public does not distinguish between various types of cancer. They lump cancers together under one name. That is why the cancer problem is not understood. But if we are to settle the confusion in the mind of the public, we must first settle the confusion in our own minds. We must study the natural history of cancers.—G. Crile Jr., M.D., Common Sense in Cancer, *Postgraduate Medicine*, April, 1955.

PARADOXICAL ACTION OF GLYCERYL TRINITRATE (NITROGLYCERIN) IN CORONARY PATIENTS

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For more than 75 years, no drug has proved superior to glyceryl trinitrate (nitroglycerin) in warding off or cutting short attacks of angina pectoris. Most observers have attributed the beneficial action of this agent to its vasodilating effect on the coronary arteries. On the other hand, while favorable therapeutic response in most patients is an established fact, clinical experience has proved that, in certain cases, the use of nitrites is not followed by clinical improvement [1] and may even cause untoward effects. A considerable number of reports in the literature make it clear that glyceryl trinitrate is not a perfectly harmless drug and that there exists a significant incidence of collapse, syncope, and less severe reactions of cardiovascular nature after its administration.[2] Usually such reactions are ascribed either to overdosage or to an individual sensitivity of the patient. The causes of such reactions are readily discernible, however, if one considers the pharmacological actions of this drug on the whole of the cardiovascular system rather than on the coronary circulation alone. Experimental work has shown that nitrites produce a general vasodilatation that is most marked in the postarteriolar vascular bed. Weiss and associates [2d] have demonstrated that capillaries and venules are strongly dilated by administration of sodium nitrite which causes a diminution in the tone of the venous reservoir, diminished venous return to the heart, and peripheral circulatory collapse. Little information is available about the effect of the nitrites on the output and work of the human heart. Wegria and associates,[3] in recent studies made with a low-frequency ballistocardiograph, concluded that cardiac work per beat and per minute is increased by glyceryl trinitrate. Their findings suggest that glyceryl trinitrate relieves the anginal pain of myocardial ischemia by increasing the coronary flow relatively more than the work of the heart. Brandt and associates,[4] however, using the slit-kymograph have offered strong evidence that glyceryl trinitrate decreases heart volume and stroke volume. As a result of increase in heart rate the net effect on minute volume flow is insignificant in most subjects but may result in a rise of 30% in subjects whose rates are markedly accelerated. The fact that the decrease in stroke volume was more marked in erect than in recumbent subjects gave confirmation to the findings of Weiss and associates [2d] that the decrease is due primarily to venous pooling and reduced return to the heart. Inasmuch as any disturbance in cardiac function due to poor venous return appears to aggravate angina, it must be assumed that glyceryl trinitrate is effective in spite of its action in decreasing cardiac filling.[4] Moreover, since glyceryl trinitrate has little effect on cardiac work per minute, its favorable action in angina pectoris must result from better flow through the larger coronary collateral arteries. The view of Raab [5] that glyceryl trinitrate may act in a different manner, namely, by interfering with the metabolic, anoxia-producing effects of the sympathomimetic amines on the myocardium, has not been confirmed by other investigators.[6] It would appear therefore that glyceryl trinitrate exerts specific effects on coronary blood flow, venous return to the heart, stroke volume, peripheral resistance, cardiac rate, and blood pressure. Although occasionally some of these changes in the vascular system are so pronounced that they are found to vitiate or overbalance the effect of coronary vasodilatation (either by decreasing coronary flow or by increasing the work of the heart), they are usually of such mild degree or so well compensated for by reflex mechanisms that the over-all effect is beneficial for the coronary circulation. When the reflex changes compensating for peripheral venous stasis induced by glyceryl trinitrate fail, however, circulatory collapse and syncope may ensue. Reports of less apparent untoward phenomena of cardiovascular nature following nitrite administration have been few. Dewar and Grimson [2g] observed a case of angina pectoris in which glyceryl trinitrate actually induced pain and produced depression of the S-T segments at rest comparable to the S-T segment depression caused by exercise. No explanation for this phenomenon was offered. Electro-

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cardiographic changes after inhalation of amyl nitrite have been reported in the literature by various authors. Goldberger [7] attributes them to rotation of the heart resulting from its decrease in size and contends that similar, if not identical, findings are produced by deep inspiration. Nordenfelt [8] considers the alterations in the electrocardiogram after inhalation of amyl nitrite to be similar to

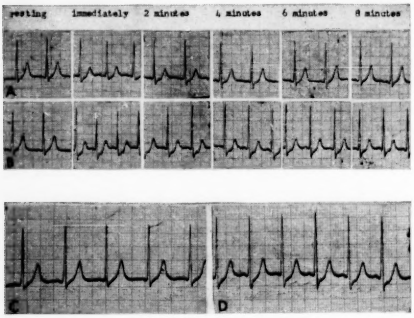

Fig. 1 (case 1).—Master tests (lead V_4) showing *A*, control response and *B*, response after premedication with glyceryl trinitrate. Note more abnormal response in *B*. *C* and *D*, resting electrocardiogram (lead V_4) with patient recumbent: *C*, before glyceryl trinitrate and *D*, five minutes after 0.4 mg. (1/150 grain) of glyceryl trinitrate sublingually.

those occurring in the change from the supine to the erect position. Contro and associates,[2b] on the other hand, found that amyl nitrite inhalation often produced electrocardiographic changes that were similar to those obtained with an exercise test in the same patients. They suggest that, in spite of coronary vasodilatation, the tachycardia and fall in blood pressure induced by the drug may result, paradoxically, in myocardial ischemia. The purpose of the present report is to record a series of cases in which untoward effects from glyceryl trinitrate were observed on electrocardiographic tracings and to attempt an explanation of the mechanism involved.

METHOD

The modifying effect of varying doses of glyceryl trinitrate (0.2 to 1.2 mg. [1/300 to 1/50 grain]) upon the electrocardiographic response to standard exercise was studied in 158 patients with coronary disease who showed consistently abnormal responses in control tests. Of this number, 154 were men between the ages of 32 and 77 years and 4 were women, 48, 51, 56, and 62 years respectively. Twenty-two of the total had suffered a clinical episode of acute myocardial infarction previously, while 51 presented classic symptoms of angina pectoris at the time of study. Arterial hypertension was present in about 40% of the patients. In all instances a hypodermic tablet of glyceryl trinitrate in varying dosage was administered sublingually five minutes before commencement of the Master two-step test, after which the results were compared with those obtained in control studies without prior medication. In subjects in whom such comparison indicated a paradoxical response to glyceryl trinitrate, careful study was made of the effect of the drug on the resting electrocardiogram.

RESULTS

With a dose of 0.4 mg. (1/150 grain) administered sublingually five minutes prior to exercise, 105 patients showed a completely normal response, 26 an improved response, 11 no significant change, and 16 patients even greater abnormalities than were observed in control tracings. Among the 131 patients responding favorably to 0.4 mg., there were 16 who showed less dramatic results or a paradoxical response when larger doses were employed (0.6 to 1.2 mg. [1/100 to 1/50 grain]). On the other hand, the majority of these patients responded as well to 0.2 or 0.3 mg. (1/300 or 1/200 grain) as they did to 0.4 mg. (1/150 grain). Five of the 11 patients who showed no significant change with 0.4 mg responded favorably to larger doses of this drug. It therefore became apparent that individualization of dosage is an important prerequisite to rational therapy in angina pectoris. Moreover, even in the patients who showed a paradoxical response to ordinary doses of glyceryl trinitrate, adverse effects did not appear with smaller amounts of the drug. The following cases are representative of the 16 patients who showed paradoxical response to 0.4 mg. of glyceryl trinitrate.

REPORT OF CASES

CASE 1.—A 56-year-old white male who had suffered an attack of myocardial infarction in 1947 presented no complaints referable to the cardiovascular system. The 12-lead standard electrocardiogram was consistent with the diagnosis of an old posterior myocardial infarct. In studying the effect of exercise on the electrocardiogram (with and without premedication with glyceryl trinitrate) it was observed that the S-T segment depression induced by effort was of greater magnitude and duration when this drug had been employed. It can be seen in figure 1*A* and *B* that the administration of glyceryl trinitrate (0.4 mg.) five minutes before the performance of the exercise test resulted in a more abnormal electrocardiographic response than that observed in the control study without such medication. This unexpected and apparently paradoxical response prompted us to study the effect of a similar dose of glyceryl trinitrate on the patient's resting electrocardiogram. Figure 1*C* and *D* shows that the administration of this drug with the patient in the recumbent position resulted in S-T segment depression of even

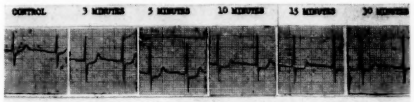

Fig. 2 (case 2).—Effect of 0.4 mg. (1/150 grain) of glyceryl trinitrate on resting electrocardiogram (V_4). Depression of the S-T segment persisted up to 30 minutes.

greater magnitude than that produced by exercise alone (fig. 1*A*). This abnormality gradually disappeared within the next 12 minutes, while the blood pressure fell from a control value of 142 mm. Hg systolic and 90 mm. Hg diastolic to 108 systolic and 80 diastolic 9 minutes after the administration of glyceryl trinitrate (table 1). The heart rate increased from a control value of 94 to 120 beats per minute in 5 minutes then gradually fell to the control level again in 15 minutes (table 1). The administration of glyceryl trinitrate to this patient even in a dose as small as 0.2 mg. consistently produced symptoms of dizziness, headache, and nausea while he was in the upright position. Reclining promptly relieved the patient of his symptoms.

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CASE 2.—A 67-year-old white male had suffered from angina pectoris for approximately four years. More recently he noted that the attacks had become more severe and were more easily induced by effort or excitement. The standard 12-lead electrocardiogram with the patient recumbent showed slight depression of the precordial S-T segments. This depression became marked in lead V_4 5 minutes after administration of glyceryl trinitrate (0.4 mg.) and persisted up to 30 minutes (fig. 2). The blood pressure dropped from a control level of 120 mm. Hg systolic and 70 mm. Hg diastolic, before administration of the drug, to a

TABLE 1.—*Effect of Two-Fifths Milligram of Glyceryl Trinitrate on Blood Pressure and Heart Rate in Patient in Case 1* *

	Blood Pressure, Mm. Hg	Heart Rate, per Min.
Control	142/90	94
After Glyceryl Trinitrate, Min.		
2	120/90	108
5	110/82	120
9	108/80	115
15	118/80	96
30	130/80	92

* With patient recumbent.

low of 98 systolic and 75 diastolic seven minutes after the drug was taken (table 2). The heart rate increased from 79 beats per minute before glyceryl trinitrate to a maximum of 91 beats per minute 7 minutes after its administration, returning to the control level in 30 minutes (table 2). The electrocardiographic changes induced by glyceryl trinitrate were similar to those that developed after the performance of a modified exercise test by this patient. The administration of dihydroergocornine (0.5 mg.) subcutaneously failed to prevent the paradoxical response to glyceryl trinitrate.

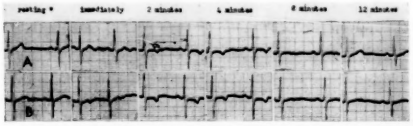
CASE 3.—A 57-year-old Chinese male with diabetes mellitus presented no symptoms referable to the cardiovascular system. Although routine cardiac examination as well as electrocardiographic study revealed no abnormalities, results of the Master two-step test were positive (fig. 3*A*). When glyceryl trinitrate (0.4 mg.) was administered five minutes before exercise, the tracings (fig. 3*B*) showed T-wave inversion of greater magnitude and duration than that seen in the control test. It was also noted in this patient that sitting up resulted in inversion of the T wave in precordial leads V_1 to V_6, while standing extended the T-wave inversion to V_2. The administration of dihydroergocornine (0.5 mg.) failed to prevent the alterations induced by exercise or

TABLE 2.—*Effect of Two-Fifths Milligram of Glyceryl Trinitrate on Blood Pressure and Heart Rate in Patient in Case 2* *

	Blood Pressure, Mm. Hg	Heart Rate, per Min.
Control	120/70	79
After Glyceryl Trinitrate, Min.		
2	114/70	84
4	110/75	88
7	98/75	91
12	110/75	88
17	114/75	..
22	110/70	84
27	116/70	..
32	120/70	78

* With patient in sitting position.

change in body position. Exercise, standing or sitting up, or administration of glyceryl trinitrate did not produce any untoward subjective symptoms in this patient. On the suspicion that venous pooling might be the cause of the described T-wave inversions, tight elastic bandages were applied to the patient's abdomen and/or lower extremities. Figure 3*C* and *D* shows clearly that the T-wave inversion due to standing was prevented by leg bandages (wrapped from feet to groin) whereas an abdominal binder alone was ineffective. It is seen from figure 4 that the application of leg bandages also prevented the T-wave inversion induced by glyceryl trinitrate when the patient was recumbent but failed to exert such an effect when the patient was in the sitting or standing position. Although the electrocardiogram indicated that leg bandages were superior to an abdominal binder with the patient erect, the ballistocardiogram revealed the abdominal binder to be more effective than leg bandages when the patient was recumbent (fig. 5).



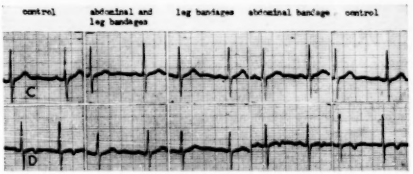


Fig. 3 (case 3).—Master tests (lead V_4) showing *A*, control response and *B*, response after premedication with glyceryl trinitrate. Note earlier and more prolonged inversion of the T wave in *B*. *C* and *D*, electrocardiograms (lead V_4) showing the effect of elastic bandages in preventing T-wave inversion on standing. Note that an abdominal binder alone was ineffective. *C*, reclining; *D*, standing.

COMMENT

The findings of this study indicate that, although glyceryl trinitrate is the most useful drug in the treatment of angina pectoris, it is an agent that possesses latent potentialities for adverse effects in this disease. Ten per cent of the patients in this study showed unfavorable electrocardiographic responses to the usual therapeutic dose of 0.4 mg. (1/150 grain). An additional 6% reacted paradoxically when larger dosage was employed. In all of these cases the electrocardiographic changes induced by glyceryl trinitrate were similar to those ob-

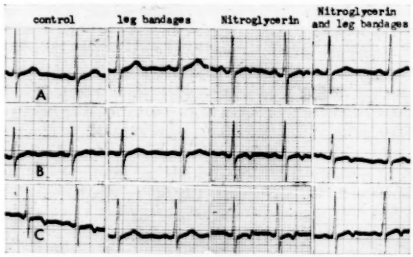


Fig. 4 (case 3).—Electrocardiograms (lead V_4) showing the effect of leg bandages in preventing T-wave changes associated with standing or induced by glyceryl trinitrate. Note that bandaging counteracted the effect of glyceryl trinitrate only when the patient was recumbent. *A*, reclining; *B*, sitting; and *C*, standing.

served with the exercise test. It would seem therefore that a threshold dosage level may exist in many patients above which the resultant relaxation of the venous reservoir could reduce cardiac output and coronary flow sufficiently to outweigh beneficial effects derived from direct

coronary vasodilatation. That these induced changes in the electrocardiogram after the administration of glyceryl trinitrate as well as after the assumption of the erect posture in some cases are not due to rotation of the heart or increased tonus of the sympathetic nervous system also appeared to be established. Thus deep inspiration failed to evoke similar electrocardiographic changes, while sympatholytic agents failed to prevent their appearance in the usual manner. On the other hand, the application of elastic bandages to the lower extremities prevented the changes occurring on standing and, to a lesser degree, those induced by glyceryl trinitrate. The genesis of the electrocardiographic alterations after the change from the supine to the erect position appeared to be similar to that underlying the glyceryl trinitrate response; venous pooling in the lower extremities seemed to be the major factor in both instances. It is of further interest that in the erect position the venous reservoir of the lower extremities appeared to play a greater role than the splanchnic area with respect to the improvement in

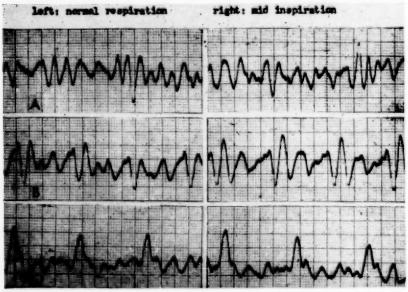


Fig. 5 (case 3).—Ballistocardiograms showing the influence of an abdominal binder or leg bandages on ballistic pattern. *A*, control; *B*, abdominal binder; and *C*, elastic bandages to legs. The most satisfactory trace is seen in *B*.

venous return to the heart obtained by bandaging. On the other hand, in the horizontal position, the abdominal binder showed a more favorable effect on ballistic pattern than leg bandages. Inasmuch as anginal attacks are more usually encountered in patients who are active and erect, the possible therapeutic value of elastic bandages for the lower extremities in some cases would seem to deserve consideration. The evidence suggests that there may be a better rationale for the application of leg bandages than of an abdominal binder. Indeed, best results might be achieved by the combined use of both procedures.

The observations of this study appear to correlate well with the conclusions of Weiss and associates [2d] and Brandt, Caccese, and Dock [4] that glyceryl trinitrate decreases heart volume and stroke volume as a result of venous pooling and reduced return to the heart. The action of glyceryl trinitrate on the venous system suggests a possible therapeutic application of this effect in congestive heart failure. When used alone or in conjunction with tourniquets to the extremities, the administration of glyceryl trinitrate, perhaps in large dosage, many utilize the peripheral venous system as a reservoir, decrease the circulating blood volume, and reduce the size of the heart. Not only in the therapy of acute left ventricular failure but in its prophylaxis prior to contemplated exertion in patients with diminished cardiac reserve, this procedure has appeared to have distinct value.

This study indicates that the optimum dosage level for glyceryl trinitrate in most patients with angina pectoris is 0.2 to 0.3 mg. (1/300 to 1/200 grain) sublingually. Larger doses frequently induce unpleasant side-effects without improving therapeutic response or exert an adverse action upon the heart. In our opinion only the hypodermic tablet should be employed; the preparation (triturated) for oral use is ineffectual even in massive dosage orally or sublingually, and its use should be discontinued. Inasmuch as paradoxical effects from glyceryl trinitrate are encountered in patients with angina pectoris with therapeutic as well as with excessive amounts of the drug, establishment of the optimum dosage level in the individual case should constitute an important objective of therapy. Moreover, the precipitation of acute myocardial infarction should be recognized as a definite risk from overdosage during therapy of the anginal attack. Venous pooling in the lower extremities, diminished venous return to the heart, tachycardia, and fall in blood pressure are actions of the drug that not only interdict its use in acute myocardial infarction but reflect its danger when carelessly administered in angina pectoris. There can be no doubt that overdosage during self-medication for a severe paroxysm of angina pectoris is responsible for the precipitation of acute myocardial infarction in many patients.

SUMMARY AND CONCLUSIONS

A study of the effect of varying doses of glyceryl trinitrate (nitroglycerin), 0.2 to 1.2 mg. (1/300 to 1/50 grain), on the electrocardiographic response to standard exercise (Master two-step test) was undertaken in 158 patients with coronary disease who showed consistently positive changes in control studies. It was found that with a dose of 0.4 mg. (1/150 grain) given sublingually five minutes before exercise, 131 patients (83%) responded favorably, 11 patients (7%) showed no significant effect from the drug, and 16 patients (10%) demonstrated even greater abnormalities than were apparent in the electrocardiographic records of control tests. This study appears to indicate that individualization of dosage is an important prerequisite to rational therapy in angina pectoris.

The effect of glyceryl trinitrate on the resting electrocardiogram in 16 patients who responded paradoxically to the drug when given exercise tests caused us to make the following observations: 1. In all cases the electrocardiographic changes induced by glyceryl trinitrate were similar to those that were recorded in the performance of the Master two-step test. 2. Paradoxical response to glyceryl trinitrate is caused by venous pooling in the lower extremities, diminished venous return to the heart, and reduced coronary blood flow in spite of concomitant coronary vasodilatation. In some instances, change from the recumbent to the erect posture produced electrocardiographic alterations that were similar to those evoked by this drug. Elastic bandages on the lower extremities prevented the changes occurring on standing and to a lesser degree those induced by glyceryl trinitrate.

The possible value of an abdominal binder and leg bandages in angina pectoris is suggested by these observations, which indicate, however, that the legs are a more important venous reservoir than the splanchnic area when the patient is erect. 3. The action of glyceryl trinitrate on the venous system may have therapeutic application in the prophylaxis and treatment of acute congestive heart failure, in which condition decrease in venous return and diminution in heart size are important objectives of therapy. 4. Although glyceryl trinitrate is the most useful agent in the treatment of angina pectoris, it has not been adequately appreciated that the drug also possesses latent potentialities for adverse effects in this disease. The optimum dosage for most patients is 0.2 to 0.3 mg. (1/300 to 1/200 grain) sublingually. The precipitation of acute myocardial infarction is more than a theoretical danger from overdosage during treatment of the anginal attack.

176 Hart Blvd. (Dr. Russek).

CLINICAL NOTES

CORTICOTROPIN IN SEVERE ANGINOSE INFECTIOUS MONONUCLEOSIS

Capt. William Mandel
Lieut. R. J. Marilley Jr.
and
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Respiratory obstruction resulting in death in one instance and requiring tracheotomy in eight instances has been reported in patients with anginose infectious mononucleosis. This is a report of a patient with infectious mononucleosis in whom the symptoms and signs of respiratory obstruction were severe enough to warrant a tracheotomy but who instead was first treated by intravenously administered corticotropin (ACTH).

REPORT OF CASE

An 18-year-old white male was first seen because of the onset of sore throat, dysphagia, hoarseness, swelling of the neck, weakness, malaise, headache, chills, and generalized aching of two days' duration. A diagnosis of "pharyngitis" was made at the onset of his illness, and he was given 300,000 units of procaine penicillin intramuscularly for two days. When the symptoms progressed, the dose of penicillin was increased to 600,000 units daily. Because he failed to respond to this treatment, he was admitted to the hospital. His history revealed that he had had the usual childhood diseases without known sequelae. His general health had been good, and he had not been jaundiced.

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The patient was an acutely ill, well-developed, well-nourished young male. His skin was warm and flushed. His temperature was 102.4 F, pulse 118, and respiratory rate 32 per minute. He was in moderate to marked respiratory distress and was breathing through his mouth. His respirations were short, grunting, and shallow in nature. He was not cyanotic. There was retraction of the intercostal spaces with inspiration. There was no icterus of the skin or sclerae. His neck was markedly enlarged from two to three times its normal size by many discrete tender lymph nodes. It was similar to the bull-neck seen in patients with Hodgkin's disease. The uvula, soft palate, and pharyngeal areas were markedly reddened, hyperemic, and edematous. There were no exudates present. There was marked tenderness and moderate enlargement of the lymph nodes in the anterior and posterior cervical chains and in the axillary, epitrochlear, and inguinal areas. The heart was normal except for sinus tachycardia. There was slight distention of the abdomen, and it was tender to palpation in both the right and left upper quadrant areas. The liver was not definitely felt. The spleen was tender and was felt 4 cm. below the left costal margin. The neurological examination was normal. The remainder of the physical examination was normal.

The serologic test for syphilis, hemoglobin, red blood cell count, urinalysis, chest roentgenogram, blood urea nitrogen, and carbon dioxide-combining power were normal. The white blood cell count was 20,750 cells per cubic millimeter, with the differential count showing 61% lymphocytes and 33% neutrophils. The blood smear showed some prolymphocytes and Türk's cells as well as atypical lymphocytes that were suggestive, though not diagnostic, of infectious mononucleosis. The sedimentation rate was 13 mm. per hour. The cephalin-cholesterol flocculation was 3+ in 24 and 48 hours. The direct and total serum bilirubin and the thymol turbidity were normal. The heterophil antibody test was positive in a dilution of 1:448. After absorption with guinea pig kidney, the dilution was positive in 1:228, and there was no titer after absorption with beef red blood cells. On the third hospital day, atypical lymphocytes that were diagnostic for infectious mononucleosis appeared.

A tracheotomy was considered soon after hospital admission. Prior to this, it was felt that the effects of intravenous administration of corticotropin would be evaluated. The medicament was given daily over an 8 to 14 hour period for five days. The following daily doses were given: 15, 10, 7.5, 5, and 2.5 mg. for a total of 40 mg. The patient appeared almost well on the morning of the second hospital day—16 hours after admission. His temperature was normal. There was a noticeable decrease in the size as well as in the tenderness of his neck. His voice was no longer hoarse, and he was able to swallow without marked difficulty. The spleen could not be felt, and the abdomen was soft and nontender. This improvement continued throughout his hospital stay. There was a gradual fall in the total white blood cell count to within normal limits. The lymphocytosis, which varied from 40 to 72%, persisted throughout the hospitalization. There was a gradual fall in the sedimentation rate to normal. The heterophil titer remained unchanged. Except for weight gain, there were no adverse effects from the medication. The patient's course in the hospital was uncomplicated, and he was discharged 11 days after admission. He was seen one and three weeks after discharge and was well at both times. The laboratory studies on his last visit revealed a normal white blood cell count. There was a 45% lymphocyte count, and the atypical lymphocytes were still present. The sedimentation rate was 4 mm. per hour; the heterophil antibody test was 1:448, and it was 1:112 after guinea pig kidney absorption. The cephalin-cholesterol flocculation was 1+ in 24 and 2+ in 48 hours. The physical examination was normal except for small, firm, nontender cervical, axillary, and inguinal lymph nodes.

COMMENT

Librach,[1] in 1951, performed a tracheotomy for the relief of respiratory obstruction in a patient with infectious mononucleosis. He reported six similar cases. An additional case has since been added by Delaney and Nelson.[2] Two patients were treated, prior to the tracheotomy, with diphtheria antitoxin [3] and one with diphtheria

antitoxin and neoarsphenamine.[4] These may have contributed to the glottal edema and respiratory distress. In the one reported death [3b] due to respiratory obstruction, the patient had been treated with diphtheria antitoxin, and the author felt that this might have had some part in the fatality. In the past, cases of infectious mononucleosis were probably frequently diagnosed as diphtheria, and tracheotomies done for the latter disease may actually have been performed for severe anginose infectious mononucleosis.

Bender and Houghton [5] treated 11 patients with infectious mononucleosis with intramuscularly administered corticotropin. They reported prompt reduction in the pharyngeal inflammatory reaction and in the severity of the illness. They recommended use of this drug when the disease process was of more than average severity. Doran and Weisberger [6] reported one patient whose disease was complicated by thrombocytopenia, azotemia, and liver failure, and who improved coincident with the administration of corticotropin. They also suggested that the medicament be given in severe and complicated cases of infectious mononucleosis. Fiese and co-workers [7] reported a patient with virus encephalomyelitis (Guillain-Barré syndrome) associated with infectious mononucleosis who improved with the administration of corticotropin. Brutsche and Naegele [8] reported one patient who was seriously ill with infectious mononucleosis and who rapidly improved after the intravenous administration of corticotropin.

The results of the treatment in our case were similar to the experience of the above authors. There was marked and rapid clinical improvement associated with a decrease in the pharyngeal edema and a disappearance of the symptoms and signs of respiratory obstruction. This avoided the possible need for a tracheotomy. There was a decrease in the size of peripheral lymph nodes and of the spleen. There was no recurrence of the symptoms or recurrence of the signs of the disease when the medication was stopped.

SUMMARY

Corticotropin (ACTH) was administered intravenously to a patient with severe anginose infectious mononucleosis. This produced a rapid decrease in the signs and symptoms of the disease. A tracheotomy that had been contemplated for relief of the respiratory distress was no longer required. The use of corticotropin is advised in the patient with infectious mononucleosis who has marked respiratory difficulty.

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INJURY AND DEATH FROM RED FUMING NITRIC ACID

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Serious injury by concentrated nitric acids is not infrequent, accounting for a significant number of the cases of disability and death from hazardous chemicals.[1] Toxicologically, the two major forms may be regarded as identical, since they are both extremely corrosive and since both emit dangerous fumes. Red fuming nitric acid contains dissolved oxides of nitrogen ("nitrous fumes"), which are toxic; decomposition of the acid on contact with oxidizable material liberates more oxides of nitrogen. White fuming nitric acid, though containing little dissolved oxides of nitrogen, decomposes on contact with oxidizable material just as red fuming nitric acid and also liberates oxides of nitrogen. The growing utilization of red fuming nitric acid (RFNA) by industry and by the armed services makes timely a brief restatement of its hazards, how they should be avoided, and what to do in case of exposure. Illustrative case histories are given.

The concentrated nitric acids are extremely corrosive fuming liquids, with varying amounts of dissolved oxides of nitrogen, which are evolved as reddish-brown fumes with small amounts of acid vapor. Nitric oxide in contact with air is fairly rapidly oxidized to nitrogen dioxide. Nitrogen dioxide readily polymerizes to nitrogen tetroxide, the inhaled fumes at body temperature consisting of approximately 30% NO_2 and 70% N_2O_4. These oxides form nitric acid on contact with water.[2] The fuming nitric acids constitute a definite hazard, causing injury by liquid contact with body surfaces and by inhaled fumes. Yellow discoloration of the skin follows brief contact, while more than momentary contact produces severe, slow-healing burns. Contact with the eyes may result in corneal injury with permanent visual impairment. Severe pulmonary injury may result from inhalation of "nitrous fumes." Four distinct clinical pictures in acute poisoning by inhalation of "nitrous fumes" have been described [3]: (1) the irritant gas type, in which there are signs of local irritation followed by a latent period of a few hours and then the development of pulmonary edema with death in one to two days; (2) the reversible type, in which there is a rapid succession of dyspnea, cyanosis, vomiting, vertigo, and sometimes unconsciousness; (3) the shock type, in which there is a very rapid onset of signs of suffocation, convulsions, and cessation of breathing; and (4) a combined form, in which there are early cerebral symptoms that subside after removal from the fumes. However, after a latent period of a few hours, pulmonary edema develops.

From the Chemical Corps Medical Laboratories.

Permission for review of the hospital record of the patient in case 1 was granted by Capt. G. B. Taylor (MC), U. S. N., Commanding, the Bethesda Naval Hospital; and permission for review of records and other material in case 2 was granted by the Director, Prince Georges General Hospital, Cheverley, Md., and by Dr. Russell S. Fisher, Maryland State Medical Examiner, Baltimore.

1. von Oettingen, W. F.: The Toxicity and Potential Dangers of Nitrous Fumes, Public Health Bulletin 272, Federal Security Agency, U. S. Public Health Service, 1941.

2. (*a*) Wood, F. C.: Poisoning by Nitric Oxid Fumes, Arch. Int. Med. **10**: 478 (Dec.) 1912. (*b*) von Oettingen.[1]

3. Flury, F.: Die Rolle des Stickstoffmonoxyds bei der Vergiftung durch Nitrose Gase, Arch. exper. Path. u. Pharmakol. **157**: 104, 1930.

This variation in the clinical picture may be best accounted for by the composition of the fumes. When the content of nitric oxide is high (in sources of "nitrous fumes," other than nitric acid, as for example in arc welding [4]), there are cerebral symptoms, whereas, when the content of nitrogen dioxide is high (as in nitric acid), there are irritant phenomena.[3] In the acute stage hemoconcentration and thrombocytosis may be observed. If there is a significant concentration of nitric oxide, methemoglobinemia may be found. Patients surviving pulmonary edema may develop bronchopneumonia, and purulent bronchitis may be a recurrent problem for several months. Late complications of this type may well be responsible for fatal cases that go unrecognized as being related to the initial injury.[5] A rare late complication is bronchiolitis obliterans, in which the main clinical features are cyanosis and dyspnea with a chest x-ray picture simulating that seen in miliary tuberculosis.[6]

Two cases of exposure in one accident are described here, illustrating burn and fume injury by nitric acid. The accident occurred Dec. 29, 1953, in a large top-floor laboratory where research utilizing red fuming nitric acid had been in progress for some time. The personnel involved had considerable experience in its handling, and the person directly involved in the explosion had done the task several times before the accident. About 6 liters of red fuming nitric acid was distributed in contact with strips of titanium metal among 24 Erlenmeyer-type glass flasks equipped with glass stopcocks for venting. The tray holding the flasks was in a conventional, ventilated wall-type laboratory hood. The laboratory was 90 by 40 by 10 ft. A chemist was venting a flask containing 250 cc. of red fuming nitric acid and strips of titanium when it exploded, starting a chain explosion of the other flasks.

REPORT OF CASES

CASE 1.—A 28-year-old chemist was showered with liquid acid of uncertain but probably high temperature. He was wearing rubber gloves and a jacket. As the room was filling with dense "nitrous fumes," fellow workers rushed to his aid and within seconds played running water on him with a hose. It was already apparent to his co-workers that his face was burned, the skin appearing chalky-yellow. Eighteen minutes after the explosion he was taken to a local hospital, where his eyes and ears were covered with a saturated solution of sodium bicarbonate and facial and body burns dressed with petrolatum gauze. He received penicillin, morphine sulfate, and fluids intravenously. For the first two days, he experienced nausea and vomiting. On the third day, he was transferred to the Bethesda Naval Hospital. On admission, his temperature was 103 F, pulse 136 per minute, and respirations 24 per minute. There were first and second degree burns of the entire face and of the nasal canal and third degree burns of the forehead and ears. The right cornea was semiopaque throughout, the left appearing similar but less severely burned. There were second degree burns of the upper neck; small scattered second degree burns of the chest; second degree burns in the right axilla; first and second degree burns of the abdomen; first and second degree burns of the penis and scrotum; scattered third degree burns of the dorsum of the hands, fingers, and radial aspect of the right hand and forearm; third degree burns of the medial aspect of the right arm and forearm; second and third degree burns of the left forearm; and third degree burns of the anterior aspect of the right thigh. On admission, the patient's chest was clear to percussion and auscultation, but he shortly developed severe dyspnea, the respiratory rate varying from 40 to 70 per minute. This was partly explained on the basis of pulmonary edema, but with the appearance of mediastinal and subcutaneous emphysema it was apparent that there was a rupture of the tracheobronchial tree at some point. Signs of respiratory obstruction appeared, and on the second hospital day a tracheotomy was performed, with marked decrease in the degree of cyanosis and improvement in respiratory effort. Considerable thick mucus and frothy edema fluid was suctioned from the trachea. A portable x-ray film of the chest revealed marked densities of edema scattered throughout both lung fields and the presence of mediastinal air. He was given oxygen and Alevaire (a mixture of 0.125% Superinone [oxyethylated tertiary octylphenol-formaldehyde polymer], 5% glycerin, 2% sodium bicarbonate, and water) and fluids intravenously in amounts sufficient only to maintain urine output. His condition remained very poor throughout the second hospital day, with cyanosis, rapid pulse, and rapid, shallow respiration. On the third day, however, his condition stabilized in an oxygen tent with Alevaire. He was given 100 cc. of serum albumin and took fluids orally. By the end of the third day, he was markedly improved. On the fourth day, he received 500 cc. of whole blood. A posteroanterior film of the chest on the sixth day was essentially normal. The mediastinal emphysema was resolved. The hospital course was then one of general improvement. His temperature, which varied from 101 to 103 F during the earlier stages, returned to normal by the ninth day. The right cornea, which had been semiopaque throughout, was clear by the 28th day, but the left cornea had become opaque. Skin grafting of the sites of third degree burns was begun on the 27th day. At the time this case was reviewed, two and one-half months after the accident, the patient was doing well, remaining hospitalized for various plastic procedures.

CASE 2.—A 38-year-old chemist was one of those who came to aid the patient in case 1 seconds after the accident. There is little information about early symptoms, other than that he is said to have had a cough after the accident and had tightness in the chest the first few days. He took sick leave, unusual for him, but complained of no symptoms other than cough, until Jan. 19, 1954. The cough increased in severity, and he experienced chilly sensations with fever. He consulted a physician for the first time Jan. 21, 1954 (21 days after exposure), who found only loud rhonchi on examination of the chest. His symptoms became rapidly and progressively more marked; he developed retrosternal pain, a feeling of tightness in the chest, and later shortness of breath. Treatment with chlortetracycline (Aureomycin) was begun Jan. 23, 1954. The following day shortness of breath was so severe the patient had to remain seated.

On admission to the hospital, Jan. 24, 1954, he had a dry hacking cough, marked dyspnea showing severe respiratory effort, and a respiratory rate of 52 per minute. Temperature was 104 F, pulse 128 per minute, and blood pressure 170/90 mm. Hg. Abnormal findings, limited to the chest, were wheezing, sonorous breath sounds, and rales throughout. Urine was normal, the red blood cell count was 4,050,000 per cubic millimeter, white blood count 11,100 per cubic millimeter, hemoglobin 13.1 gm. per 100 cc. The white cell differential count was polymorphonuclear leukocytes 81%, lymphocytes 14%, stab forms 3%, and eosinophils 2%. A posteroanterior chest film on admission revealed small, irregular densities, 1 to 2 mm. in diameter, diffusely scattered throughout the lung fields. These miliary-like densities had indistinct, irregular margins and were of uniform radiopacity. There was a closer relation to bronchial markings than to vascular ones. The patient was given chlortetracycline and dextrose and saline intravenously. His temperature fell to 99.4 F, and he remained afebrile. The hospital course was one of rapid deterioration. Cyanosis of the mucous membranes and nailbeds was noted and progressively deepened. Respirations gradually became shallow, the blood pressure fell, and the patient died Jan. 25, 1954, approximately 30 hours after admission. An autopsy was performed, which revealed bronchiolitis obliterans and acute pulmonary edema. The details of this case are the subject of another report.[6]

Five co-workers, involved in the rescue of the patient in case 1, were interviewed for any possible symptoms.

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5. Hamilton, A., and Hardy, H. L.: Industrial Toxicology, ed. 2, New York, Paul B. Hoeber, Inc., 1949.

6. McAdams, A. J., Jr.: Bronchiolitis Obliterans, Am. J. Med., to be published.

All experienced some coughing while in the room, and three continued to have some cough for one to three days. Three had chest pain. One had difficulty in sleeping the second night after the accident, awakening with rapid respiration, a sensation of rumbling in the chest, and a deep desire to cough that he suppressed. One had nausea while exposed, and one had lacrimation. All had normal chest x-rays two weeks later.

COMMENT

The extreme rapidity with which serious and even fatal injury may be sustained by contact with liquid concentrated nitric acid or with its fumes makes it mandatory that prevention be emphasized. The cases described in this report illustrate the two types of injury by concentrated nitric acid; injury at the site of contact (in this case skin and eye) with the (liquid) acid, and pulmonary injury from inhalation of the "nitrous fumes" (the oxides of nitrogen). These cases are noteworthy in emphasizing the extremely hazardous nature of the material in that both patients were experienced chemists. Granted that, in these circumstances, the behavior of the acid was totally unexpected by these workers, the rapidity with which injury occurred despite quick action by all should promote greater efforts at prevention.

There has been considerable disagreement on an allowable concentration for safe exposure to the fumes. This may in part be due to a failure to consider the composition of the oxides making up the fumes. Nitric oxide is primarily a cerebral depressant and also forms methemoglobin on contact with blood. Although it is oxidized rather rapidly to nitrogen dioxide on contact with air, if the initial concentration is high, symptoms will be primarily cerebral. If concentration of nitrogen dioxide is the sole consideration, it is probable that 5 ppm is the maximum allowable concentration for chronic exposure.[7]

All possible foolproof safety devices for storage and transfer should be utilized in large-scale laboratory or industrial operations. Personal protective apparel should include eye protection as part of a hood system to cover the head, neck, and arms. Long-sleeved gloves should also be used. All apparel should be fabricated of nitric acid-resistant material. Breakage of carboys or other containers most frequently causes the accidents with serious results.[1] The chemical should not be handled or stored except where adequate ventilation exists or where provision for quick clearing of fumes has been made. If handling and storage is in a poorly ventilated area, or where quick clearing of fumes from the atmosphere cannot be accomplished, workers should wear self-contained oxygen breathing equipment during all operations. Above all, no one should handle concentrated nitric acid or enter a storage area alone. The companion's dual duty should be the enforcement of safety precautions and the prompt execution of first aid in the event of accident. Water in adequate amounts must be within a few seconds' reach of all who handle this material. This should be in the form of showers, immersion tanks, and the like for immediate washing of any part of the body, including the eyes. Application of dilute (1 to 5%) sodium bicarbonate solution may follow thorough washing.[8]

Since there can be no control of the nature of the fume composition in an accident of the sort described here and since no information on fume concentration in the atmosphere was obtained, it must be assumed that any or all types of systemic injury have been sustained by any given patient. Treatment is nonspecific and hence difficult and on the whole unsatisfactory. In the case of burns, after the initial decontamination, the injury should be handled as one would thermal burns. It should be noted that caustic injuries by nitric acid heal slowly. In the case of inhalation of fumes, the patient should be closely observed even though there appear to be no early signs of injury. The onset of pulmonary edema may be considerably delayed and insidious in development. Where there is any evidence of pulmonary damage, an antibiotic should be administered. The period of observation should be sufficiently long to exclude the development of late complications, which may mean a follow-up period of several weeks. Of first importance in evaluating the patient are serial roentgenographic examinations. Several reports have described the x-ray changes in the lungs after inhalation of oxides of nitrogen fumes.[9] This procedure is of particular importance in detecting the development of bronchiolitis obliterans, as in our case 2. Although this is a rare complication, some consideration should be given to its possible detection in the early stages and of its treatment. The development of bronchiolitis obliterans following pulmonary injury may occur within 14 days.[10] In one report of a patient exposed to "nitrous fumes" seven days prior to death, evidence of beginning organization was noted.[2a] In experimental animals exposed to various war gases, Winternitz [11] found organization as early as four days after exposure. In a patient showing small densities distributed diffusely throughout the lung fields in the roentgenogram, persisting longer than one week, the development of this disease should be strongly suspected.[6] As yet, no form of therapy has resulted in improvement when the clinical picture of bronchiolitis obliterans is complete. If, however, the potential victim is detected early, it seems reasonable to expect that a fatal outcome may be averted. It is apparent that suppression of the granulating process must be accomplished, and it is proposed that to this end corticotropin be utilized as well as some form of antibiotic regimen. Administration of fluids parenterally should be done cautiously in the expectation of pulmonary edema.

SUMMARY

Red fuming nitric acid is a dangerous material to handle and may cause serious injury by direct contact or through inhalation of its fumes. In one of two cases representing various features of injury due to red fuming nitric acid, there were serious acid burns of the body, damage to the cornea, and acute pulmonary edema. The other case ended fatally due to bronchiolitis obliterans.

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10. Ehrich, W., and McIntosh, J. F.: The Pathogenesis of Bronchiolitis Obliterans: Observations in Cases of Bright's Disease, Arch. Path. **13**: 69 (Jan.) 1932.

11. Winternitz, M. C.: Collected Studies on the Pathology and Bacteriology of War Gas Poisoning, New Haven, Conn., Yale University Press, 1920.

VENTRICULAR ARRHYTHMIA INDUCED BY METHOXAMINE HYDROCHLORIDE

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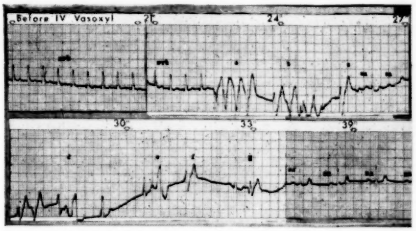
Methoxamine (Vasoxyl) hydrochloride is a synthetic sympathomimetic compound whose chief therapeutic use has been in the prevention of hypotension induced by spinal anesthesia.[1] Recent reports in the literature, however, have suggested that methoxamine hydrochloride is effective in terminating attacks of supraventricular tachycardia.[2] Chotkowski and co-workers [2b] have commented upon the dramatic reversion of the paroxysmal to the normal rhythm in a matter of seconds when the drug is administered intravenously, and Berger and Rackliffe [2a] state that methoxamine hydrochloride is perhaps unique among pressor amines in that it does not cause cardiac irritability. Stutzman and co-workers [3] noted that, of some 26 sympathomimetic compounds tested, only methoxamine hydrochloride and phenylephrine [4] (Neo-Synephrine) hydrochloride did not induce ventricular fibrillation in the experimental animal during cyclopropane anesthesia. Nathanson and Miller,[2c] however, noted ectopic ventricular activity after the administration of phenylephrine hydrochloride in a patient with shock following coronary occlusion, and, in a second patient with acute myocardial infarction, a supraventricular tachycardia treated with intravenously given phenylephrine hydrochloride was followed by ventricular tachycardia. One of us (W. E. S.) worked under the late Dr. M. Nathanson and so was able to see, at first hand, some of the patients with supraventricular tachycardia treated with methoxamine hydrochloride by this physician. No significant untoward effects were noted until recently, when a patient with supraventricular tachycardia developed ectopic ventricular activity following the intravenous administration of 10 mg. of methoxamine hydrochloride.

REPORT OF A CASE

A 35-year-old white male was seen in the office on the afternoon of July 27, 1954. After lunch that same day, the patient had returned to work when he noted the sudden onset of rapid, regular, forceful heartbeats. Because the rapid heart action persisted, he came to the office about one-half hour later. The only abnormal finding on physical examination was a rapid but regular heart rate of 160 beats per minute. An electrocardiogram revealed supraventricular tachycardia.

During the administration of all therapy, a continuous tracing of lead 2 was taken. Mechanical reflex stimulation of the vagus nerve was attempted without modification of the arrhythmia. After these procedures 10 mg. of methoxamine hydrochloride was given rapidly, intravenously. It may be noted from the electrocardiogram that, approximately 22 seconds after the administration of methoxamine hydrochloride, ectopic complexes, suggestive of ventricular tachycardia, made their appearance (a, b of figure). After an additional 4 seconds, apparent sinus rhythm was noted for two successive beats (sa of figure) and then multifocal ventricular complexes made their appearance (c, d, e, f, g of figure). Finally, maintained sinus rhythm of 70 beats per minute was noted, approximately 34 seconds after intravenous medication had been given. (Two unifocal premature ventricular complexes were noted during the next minute of the tracing, i. e., immediately after the restoration of maintained sinus rhythm.) The patient was subsequently hospitalized for medical examination. The patient at this time stated that he had experienced three attacks of rheumatic fever, at ages 7, 14, and 18 respectively. In addition, two other attacks of paroxysmal heart action had been experienced three and one years previously. The first attack was aborted after several hours by intramuscularly given sedatives and the second attack aborted spontaneously after a few minutes. Physical examination revealed a grade 2 to 3 systolic and diastolic murmur along the left border of the sternum and a grade 2 systolic murmur at the mitral area. Complete blood cell count, erythrocyte sedimentation rate, and



Electrocardiographic recordings before and beginning 21 seconds after intravenous administration of methoxamine (Vasoxyl) hydrochloride in patient with supraventricular tachycardia: a, b, c, d, e, f, g—ectopic ventricular complexes; sa—auricular contraction arising from sinoatrial node; svt—supraventricular tachycardia with a ventricular rate of 160 beats per minute.

blood iodine level were within normal limits. The temperature chart was unremarkable over a period of several weeks. Cardiac fluoroscopy confirmed the presence of aortic and mitral valvular disease.

COMMENT

Methoxamine hydrochloride is able to induce rapid reversion of supraventricular tachycardia to sinus rhythm by apparent reflex vagal stimulation. This reflex is activated because of the rapid rise of blood pressure that stimulates the carotid sinus and other pressor receptors in the aortic arch. The safety of this drug has been pointed out by several authors,[5] although Chotkowski [2b] noted that, in all of his patients with supraventricular tachycardia, ectopic ventricular complexes appeared at the onset of rhythm reversion. One of this same author's patients, moreover, developed atrial fibrillation of about 40 seconds' duration during reversion.

Contrary to the experiences of the above-noted clinicians, we have recently observed an adverse complication during intravenous therapy with methoxamine hydrochloride that we feel is of a more serious nature than has heretofore been reported. In our patient, recurrent ectopic ventricular activity appeared in a temporal relationship that strongly points to methoxamine hydro-

Attending physicians, Daniel Freeman Memorial Hospital (Drs. McLaughlin and Dowling).

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2. (*a*) Berger, A. J., and Rackliffe, R. L.: Treatment of Paroxysmal Supraventricular Tachycardia with Methoxamine, J. A. M. A. **152**: 1132-1133 (July 18) 1953. (*b*) Chotkowski, L. A.; Powell, C. P., and Rackliffe, R. L.: Methoxamine Hydrochloride in Treatment of Paroxysmal Supraventricular Tachycardia: Report of Three Cases, New England J. Med. **250**: 674-676 (April 22) 1954. (*c*) Nathanson, M. H., and Miller, H.: Clinical Observations on New Epinephrin-like Compound, Methoxamine, Am. J. M. Sc. **223**: 270-279 (March) 1952.

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5. Footnotes 2 and 3.

chloride as the responsible agent. In the previously reported cases,[2] there was no apparent organic cardiac disease present. It may be that the rheumatic heart is more prone to develop myocardial irritability from methoxamine hydrochloride. The route of drug administration must also be considered; where shock is not present nor imminent, the intramuscular method of administration may be preferable. Since methoxamine hydrochloride has been and is being used chiefly by anesthetists, it might be useful clinically to study electrocardiograms taken during anesthesia, at the time methoxamine hydrochloride is being administered, for hypotensive episodes. In this way, the true frequency of adverse effects such as we have recently noted might better be estimated. The case reported also demonstrates the need for monitored electrocardiograms in all cases of cardiac arrhythmia where methoxamine is being used.

SUMMARY

The case of a patient with supraventricular tachycardia, in whom methoxamine-hydrochloride-induced ventricular arrhythmia appeared, demonstrates the doubtful validity of the greater safety of this drug in comparison with other pressor amines. No attempt has been made in this paper to compare the value of methoxamine (Vasoxyl) hydrochloride therapy with that of other accepted methods currently employed in the treatment of this arrhythmia.

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CASE OF VENTRICULAR FIBRILLATION OF LONG DURATION WITH RECOVERY

LESSONS FROM SIX CASES IN PREVENTION AND TREATMENT

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The catastrophic problem of a patient with the heart in standstill or ventricular fibrillation is likely to be met occasionally in the lifetime of any active surgeon. As is well known, fibrillation is usually followed by death unless promptly converted to regular rhythm. The chance of conversion decreases as the duration of fibrillation increases. Defibrillation has now been successfully accomplished many times since the demonstrated effectiveness of electric shock by Prevost and Battelli [1] in 1899. Enhancement of effect by preliminary massage to oxygenate the myocardium was shown by Wiggers [2] and confirmed by Beck [3] in 1936. But it is still true that conversion has occurred within a few minutes of onset in practically every successful case. I am reporting the unusual case of an 11-year-old boy whose heart was in ventricular fibrillation for one hour and 50 minutes and who recovered without cardiac, neurological, or renal residual. The case represents an example of what rewards may rarely come from simple persistence when all seems hopeless.

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Read before the New Hampshire-Vermont Section, American Heart Association, Annual Meeting, Bretton Woods, N. H., Oct. 3, 1954.

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REPORT OF A CASE

A boy, 11 years old, was in good health except for a persistent patent ductus arteriosus. Left thoracotomy was done on April 27, 1954, for division and closure of the ductus, and operation proceeded uneventfully except for progressive tachycardia from the time the thoracic incision was made until the ductus had been exposed for division. The anesthesia was nitrous oxide ether given endotracheally. The preoperative medication was phenobarbital sodium, 1 grain (64.8 mg.), given two hours before induction, and morphine sulfate, 1/12 grain (5.48 mg.), together with scopolamine hydrobromide, 1/300 grain (0.22 mg.), given one hour before induction. The trachea was aspirated prophylactically just before the ductus was to be clamped and divided. As the aspiration was completed and the anesthetist was about to reconnect the endotracheal tube to the anesthesia machine, the heart was seen to stop beating abruptly and then to go almost immediately into ventricular fibrillation. The pulse rate, which had been 150 per minute, was absent. A blood pressure of 130/50 mm. Hg had disappeared. Good facial color precipitously changed to blanched, pallid cyanosis. The depth of anesthesia had seemed to be optimum. There had been no hemorrhage. Reflex response to the tracheal catheterization was the only apparent cause for the fibrillation aside from the previous tachycardia.

Cardiac massage was started at once and was under way within 10 seconds after the onset of cardiac arrhythmia. The patient's head was lowered into steep Trendelenburg position. The lungs were forcibly ventilated by oxygen introduced through the endotracheal tube by means of artificial respiration. Ten cubic centimeters of 1% procaine (100 mg.) was injected into the left ventricle, and it was subsequently recalled that this solution contained 0.5 cc. of a 1:1,000 solution of epinephrine. Ventricular fibrillation continued. Procaine amide (Pronestyl) hydrochloride, 100 mg., was given, but the ventricular fibrillation continued at a rate so fast that it could not be counted. Although the ventricular fibrillation of the heart in itself was not producing any output, it was obvious that some oxygenation was being achieved in the cerebral region by virtue of the continued massage and artificial respiration. There was also some pinkness in the myocardial musculature. Five cubic centimeters of 1% procaine (50 mg.) without any additive was injected into the left auricle, and it was thought that possibly one or two cardiac contractions occurred, but the ventricular fibrillation continued. The onset of ventricular fibrillation is definitely known to have been at 12:15 p. m. By the time here reached in the description, it was 1 p. m., 45 minutes having elapsed with the heart in ventricular fibrillation and the only cardiac output being that produced by the massage. The patient was now occasionally taking spontaneous inspirations. His pupils were widely dilated, and his eyes rolled from side to side. Electric shock was tried, with galvanic current applied through a nerve stimulator, the poles of which were 3 mm. apart. Between 8 and 10 vigorous contractions of the heart were caused in response to the galvanic current, but the ventricular fibrillation continued unabated. Electric shock defibrillation was then attempted with widely space poles 6 cm. apart and with 110 volt alternating current, with several applications a few seconds apart and lasting 1/10 second each, but the ventricular fibrillation continued. By this time in the description, one and a half hours had elapsed since onset of ventricular fibrillation and beginning of cardiac massage and artificial respiration. Now, the patient was breathing spontaneously. The color remained poor, although obviously not frankly anoxic. At intervals of every few minutes from the beginning, traction tapes around the aorta proximally and distally to the ductus had alternately been drawn taut in order to increase circulation to the head vessels and to increase the possibility of improved oxygenation by recirculation of the blood through the ductus and the lungs. When the rhythmic massage of the heart was stopped for even a few seconds, the myocardium rapidly dilated and softened even as the fibrillary twitching con-

tinued in the ventricle. It seemed clear that procaine amide and electric shock were not going to be effective in stopping the ventricular fibrillation. Another 10 cc. of 1% procaine (100 mg.) solution was injected, this time into the right ventricle. One had the impression that the heart muscle improved slightly in tone within 60 seconds thereafter, although there was no change in the ventricular fibrillation. Within five minutes after the right ventricular injection, however, for the first time it was seen that a regular sinus-type rhythm had appeared on the surface of the left auricle. This sinus rhythm was at a rate of about 90 per minute as actually counted by an observer, but it was not transmitted onto the ventricles, which continued unmistakably in ventricular fibrillation. Five minutes after appearance of the auricular sinus rhythm and 10 minutes after the first right ventricular injection of procaine, a second injection of 10 cc. of 1% procaine (100 mg.) was made into the right ventricle. The second injection of procaine into the right ventricle was not attended or followed by any dramatic change, both the regular sinus rhythm on the auricle and the completely dissociated fibrillation of the ventricles continuing as before. However, about 10 minutes later, at 2:05 p. m. and one hour and 50 minutes after onset of ventricular fibrillation, the left ventricle suddenly gave two firm, effective-type contractions as it was being massaged, at a rate of 60 to 70 compressions per minute, and, within a few seconds, the ventricular fibrillation disappeared as regular sinus rhythm appeared on the ventricles. One began to be able to feel pulsations in the aortic arch, and, shortly thereafter, carotid pulsations were palpable. Cardiac massage was stopped, but the heart rapidly began to dilate although the rhyhm remained regular. Massage was resumed and was continued as coordinated assistance to the ventricular contractions for several minutes until the heart muscle had regained ability to empty its chambers effectively. The patent ductus was doubly ligated and the thoracic wall incision closed. At the end of the procedure, the patient's color was excellent, his heart regular in rhythm at a rate of 120, and the blood pressure 110/70 mm. Hg. Auscultation of the anterior chest wall, at completion of the operation, showed the machinery murmur previously present to be absent. The thrill previously present also had disappeared. Oxygen was maintained constantly to the airway as the patient was taken to his bed from the operating room. There was grave fear, of course, that the child might have been decerebrated, but 20 minutes after being returned to bed, he unmistakably recognized his mother and, one-half hour later, asked for water and gave other indications of being rational. He was, however, very restless.

The convalescence for the first week was complicated, but the patient was at all times rational. The temperature was elevated to 104 F rectally four hours after operation, but it thereafter dropped to normal levels. Marked irritability and bilateral Babinski responses were present for three days. There was a daily urinary output of above 1,000 cc. in volume, but the specific gravity steadily decreased to 1.007. Albumin and casts appeared in the urine. The nonprotein nitrogen level rose to an upper level of 120 mg. per 100 cc. Arterial hypertension developed, with a blood pressure reading as high as 220/130 mm. Hg. being attained. This episode of acute tubular nephritis subsided with appropriate therapy. The patient was discharged from the hospital on May 27, one month after operation. Five months postoperatively, the cardiac, cerebral, and urinary functions were all normal, as were the blood pressure and electrocardiogram. In fact, the boy appears to be completely normal.

INCIDENCE

In the 1,600 cases in Stephenson's [4] Cardiac Arrest Registry, there is no case that approaches the period of one hour and 50 minutes with continuous massage or in which the patient recovered after such prolonged ventricular fibrillation with a completely successful result. This case emphasizes the fact that one need not give up so long as he can maintain the cerebral circulation by adequate massage of the heart. Perhaps also, it indicates that defeat may come from irreversible renal damage, because the principal postoperative problem in this case was not a neurological difficulty at all, but the management of acute tubular nephritis (lower nephron nephrosis), secondary to renal hypoxia. Beck's [5] case was the first to be reported with complete recovery after prolonged ventricular fibrillation, probably present for one hour and 10 minutes before conversion. In 1947, he reported the case of a 14-year-old boy with ventricular fibrillation who had similar renal ischemia during the period of low blood pressure, although the heart and brain were spared any detectable damage. That child, as the one here reported on, likewise had persistent tachycardia for 45 minutes before cardiac arrest occurred.

Cardiac arrest, either as ventricular fibrillation or as standstill, is probably the gravest emergency that can befall a patient or his surgeon and possibly represents the closest approach to sudden death in which there is yet a chance that the life of the patient may be rescued. Whether the incidence relative to the total number of operations being done in this country has increased is not known, but certainly a larger number of actual cases of cardiac arrest are occuring as both the number and the magnitude of anesthetic and surgical procedures are expanded. Stephenson, Reid, and Hinton [6] give an incidence of one case in 2,384 as the average from 30 large medical centers. Personally, I have had five cases of cardiac standstill and one of ventricular fibrillation in the course of 12,000 operations. This is an incidence of 1 in 2,000 cases. The pertinent features of these cases are shown in the table. Four additional cases seen, but for which I was not professionally responsible, are not included.

CLINICAL FEATURES

The heartbeat was restarted in all cases. The two patients with anoxia (cases 2 and 5 of the table) as the primary cause had eventually fatal outcomes from decerebration. Neither of these cases can be used to make one critically important point, because the known time elapsed after arrest and before effective massage was instituted is intolerably long. However, the point is that anoxia sufficient to set the stage for cardiac arrest has probably caused some brain damage even before the heart has stopped beating. Certainly, it removes most of the narrow margin of four minutes that normally exists between arrest and resuscitation if intact brain function is to be preserved. The third and remaining death in the six cases (case 1 of the table) was the first case encountered, and there was too much delay in application of suitable resuscitative measures, with resultant decerebration. I think that the essential error was in trying to massage the heart through the diaphragm for several minutes before providing exposure that permitted cardiac compression that would propel blood out of its chambers. Five of these six patients were male (83%), which compares to 61% males in a collective group of 1,200 cases studied by Stephenson and associates.[6] The complication may occur in relatively young adults, three of our six patients being in this category. In two cases, reflex phenomena

4. Stephenson, H. E.: Personal communication to the author.

5. Beck, C. S.; Pritchard, W. H., and Feil, H.: Ventricular Fibrillation of Long Duration Abolished by Electric Shock, J. A. M. A. **135**: 985 (Dec. 13) 1947.

6. Stephenson, H. E., Jr.; Reid, L. C., and Hinton, J. W.: Some Common Denominators in 1,200 Cases of Cardiac Arrest, Ann. Surg. **137**: 731, 1953.

induced by moving a gallstone in one instance (case 1 of the table) and by tracheal suction in the presence of prolonged tachycardia in the other (case 6 of the table) seemed to be precipitating factors. Administration of a large dose of tetracaine (Pontocaine) glucose solution (16 mg.) in the cerebrospinal fluid while preparing a 299 lb. (135.6 kg.) patient for a radical (Wertheim) hysterectomy for carcinoma of the cervix (case 4 of the table) was immediately followed by syncope. Cessation of respiration occurred, and the heart was observed to stop beating. It started at once with massage. Whether the third case was precipitated by bronchial biopsy or by hemorrhage is undetermined. The biopsy was followed immediately both by cardiac standstill and by hemorrhage. The heart started promptly after massage while the hilus of the lower lobe from which the blood had gushed was held compressed by the other hand. After reestablishment of cardiac function, a lobectomy was done, and the patient recovered uneventfully. In addition, a patient is cited who had bled to death from ulcer erosion of the gastroduodenal artery. The heart had stopped beating. With four transfusions running simultaneously, the gastroduodenal artery opening was plugged by manual pressure and the heart massaged. It was restarted and kept going for two and one-half hours by almost constant massage. Death then occurred. This case, however, is not one of cardiac arrest as under discussion here but rather an example of death from hemorrhage, and it shows only that it is possible to restart the heart of a recently exsanguinated person. This heart would not respond to external electric stimulation (Pacemaker)[7] either before or after massage. The six cases of cardiac arrest occurred in various places, as shown in the table.

Data on Six Cases of Cardiac Arrest

Case No.	Disease	Age, Yr.	Preceding Event or Procedure	Cause of Arrest	Where Arrest Occurred	Time from Arrest to Massage	Result
1	Cholelithiasis	39	Cholecystectomy	Reflex	Operating room	10 min.	Died in 2 wk.; decerebration
2	Carcinoma of larynx	65	Preoperative narcotic	Anoxia	On ward, preoperatively	20 min.	Died in 72 hr.; decerebration
3	Bronchiectasis with hemorrhage	59	Bronchoscopic biopsy	Biopsy; hemorrhage	Endoscopy room	2 min.	Recovery
4	Carcinoma of cervix; obesity (299 lb. [135.6 kg.])	70	Spinal anesthesia	Overdose	Anesthesia induction room	4 min.	Recovery
5	Perforated duodenal ulcer 2 hr. postoperatively	35	Receded jaw in sleep	Anoxia	On ward, postoperatively	17 min.	Died in 6 hr.; decerebration
6	Patent ductus arteriosus	11	Ductus exposure; tracheal suction	Tachycardia; reflex	Operating room	10 sec.	Recovery

PROMPTNESS

Naturally, one wishes to be certain that cardiac arrest has occurred before making an incision into the chest, but sudden blanching, with disappearance of pulse, absence of blood pressure, and dilatation of the pupils, may be taken as almost infallible signs of cardiac arrest. In such a situation, opening of the left side of the thorax immediately for heart massage will so seldom prove erroneous that those instances may properly be counted as judicious diagnostic procedures. The prick of a needle will sometimes start a heart that has stopped from reflex phenomena and should be tried first. A heart impulse stimulator may be used if desired. The form I use is the Cardiac Pacemaker, manufactured by the Electrodyne Company, Norwood, Mass. According to Zoll,[8] "it must be applied promptly while the heart is still responsive, and adequate pressure must be restored with the use of accessory agents like Nor-epinephrine. Therefore, if desired, try the Pacemaker promptly, but do not delay other measures by more than a minute. If unsuccessful, open the chest and massage the heart without delay."

TECHNIQUE OF MASSAGE AND CARDIAC RESUSCITATION

The left side of the thorax should be opened immediately. Only a knife is required. Fifteen seconds is all the time needed. Asepsis and antisepsis should be disregarded unless proper measures can be immediately instituted. The hand and wrist should be introduced between the ribs and the heart flicked with the finger. This will sometimes start it if a vagovagal reflex has been the cause. If not, the heart should be squeezed and allowed to dilate once or twice. If this does not start it, it should be compressed at the rate of 60 to 70 times a minute. By use of a knife in the opposite hand, the cartilages should be divided above and below the intercostal space entered, which should be the fourth, but may be the fifth. The patient should at once be put into Trendelenburg position. If an endotracheal tube is not already in place, one should be inserted promptly; hyperoxygenation should be induced and artificial respiration given through the anesthesia bag. The heart cannot be restarted and the brain connot be saved without an abundance of oxygen. Adequate ventilation must be provided, which means a clear airway and excessive oxygen. There is not enough oxygen or enough circulation unless the myocardium can be made pink by massage. Proper pressure must be maintained if there is to be hope for survival. This may be possible by massage alone. Levarterenol (Nor-epinephrine) sometimes suffices in addition to massage, but arterial transfusions may be required. If the heart is in standstill and cannot be started by massage alone, phenylephrine (Neo-Synephrine) hydrochloride has a place if used in very small amounts. We have used 0.5 cc. of 1: 1,000 phenylephrine in 9.5 cc. of 1% procaine. Gross[9] uses and recommends 50% glucose injected directly into the heart chambers. He also has used calcium chloride for stimulatory effect upon the myocardium.

Phenylephrine and epinephrine are contraindicated in the hyperirritable situation of ventricular fibrillation. Ex-

7. Zoll, P. M.: Resuscitation of the Heart in Ventricular Standstill by External Electric Stimulation, New England J. Med. 247: 768, 1952.
8. Zoll, P. M.: Personal communication to the author.
9. Gross, R. E.: Personal communication to the author.

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cept for the occasional spontaneous conversion of ventricular fibrillation to normal rhythm, the fibrillating heart must be brought to standstill before normal rhythm can be reestablished. Procaine and procaine amide have recently been used for this purpose. Procaine causes a rise in the heart rate, ventricular extrasystoles, and a fall in blood pressure, according to Humphreys and associates.[10] They think that tachycardia may be caused rather than prevented by procaine. From the time of the Mautz [11] demonstration that procaine is a myocardial depressant, however, many others have believed procaine to be excellent. In the presence of ventricular fibrillation, procaine injected into a ventricle, and possibly the right is the better one, does seem to have a paralytic effect. Procaine and procaine amide probably should be tried in any case of ventricular fibrillation in which defibrillation is not immediately accomplished by other methods.

As first pointed out by Wiggers [2] and frequently reemphasized since, the myocardium must be oxygenated before defibrillation can be accomplished by any means. Electric shock is probably the most reliable of the methods, when a superabundance of oxygen is maintained. Lampson, Schaeffer, and Lincoln [12] reported a case in which ventricular fibrillation lasted for 27 minutes with survival by massage, which Beck [5] cites as the only recorded human case of ventricular fibrillation converted without electric shock. For defibrillation by electric shock, a current of from 1.5 to 2 amp. is necessary. At least 110 volts may be required, and, for a very large heart, Johnson and Kirby [13] are prepared to use as high as 270 volts. The time of application should not be over one-tenth of a second lest the heart be burned. The patient's entire body must be made to contract and almost to rise off the table before voltage can be assumed to be adequate for defibrillation. The defibrillating electrodes are applied to opposite sides of the heart either through or within the pericardium. Three or four shocks should be applied in rapid succession. There are numerous fairly simple electrical defibrillators now available on the market. All must meet the requirements outlined above.

CAUSES

Reflex Phenomena.—Vagovagal reflexes have been widely discussed. It is known that stimulation of the vagus nerves may depress the cardiac beat stimulus that usually rises in the auricle. Unless the specific tissue in the ventricles, in which there are no vagal nerve endings,[14] takes over, there will be no impulse and the situation of cardiac arrest will have ensued. If the specific tissue takes over in the multiple foci instead of from a single focus, fibrillation of the ventricles results. The fact that the vagus nerve may be stimulated in a wide variety of ways (vascular stretching, mucosal pressure, and serous lining irritation) explains the multiplicity of causes that have been reported as responsible for instigating cardiac arrest. These include: (1) traction on a mesentery or occurrence of a pulmonary embolus; (2) spraying of the throat; (3) insertion of an endoscopic instrument, moving of an endotracheal tube, or clamping of a bronchus; and (4) thoracentesis or incision into the pleura or pericardium.

Anoxia.—Anoxia sets the stage for development of arrest or ventricular fibrillation. Anoxia not only weakens the contractile ability of the heart muscles but also potentiates the depressant effects of any anesthetic agent being exhibited and thus decreases the ability of the ventricles to respond effectively to self-induced stimuli when auricular stimulus has been lost by vagal excitation (vagovagal reflex). Although anoxia is not in itself known to cause a vagovagal reflex, it is unquestionably, from a clinical standpoint, the most likely of all complications to cause cardiac arrest. The most common cause of anoxia is mechanical blockage of an airway in one way or another.

Anesthesia.—The deeply overanesthetized patient with hypoxia, as everyone now realizes, is in danger of death from gradual weakening of the heart to flabby dilatation and cessation. The lightly or underanesthetized, cyanotic patient is equally in danger of arrest from vagovagal reflexes following manipulative procedures of any sort during the time such conditions exist. Of oxygen one cannot get too much. Of drugs, the fewer the kinds at one time the better. Of anesthesia one needs not too little and not too much, but just enough. The basic causes of sudden cessation of heartbeat or sudden onset of ventricular fibrillation, therefore, seem to be: (1) reflexes presumably mediated through the vagus nerve to the heart; (2) anoxia, most often from mechanical blockage of an airway; and (3) anesthesia, either too much or too many kinds.

PREVENTION

No guarantee can be offered by any physician that any patient may not fall victim to the complication of cardiac arrest; however, there are some important preventive measures to be kept constantly in mind. If preliminary drugs are limited, if atropine or scopolamine is always exhibited, if oxygen is supplied in superabundance, if depth of anesthesia is kept as light as is consistent with surgical requirements, the patient then is in a state of optimum preparation for major surgery. Patients with obstructive lesions like carcinoma of the larynx must not be drugged before they are in the operating room or constantly attended, lest they suffocate. Light anesthesia, a vagus undepressed by suitable blocking agents, such as atropine centrally or procaine peripherally, allow transmission of harmful impulses along the vagus to the auricles. A myocardium made weak or irritable by anoxia, too much anesthesia, or debilitating illness with nutritional deficiency such as vitamin B complex may suddenly fail to form a beat at all or go into ventricular fibrillation. Acetylcholine is the mediator of vagal nerve action. Atropine and also scopolamine block this action.

SUMMARY AND CONCLUSIONS

If the figures and data from these five cases of cardiac standstill and one case of ventricular fibrillation were in thousands instead of units, they would be more impressive perhaps, but I doubt if the following lessons brought

10. Fitzpatrick, H. F., and others: The Effect of Intrapericardial and Intracardiac Procaine upon the Circulation in Man During Mitral Commissurotomy and Pulmonary Valvulotomy, J. Thoracic Surg. **28**: 259, 1954.
11. Mautz, F. R.: Resuscitation of the Heart from Ventricular Fibrillation with Drugs Combined with Electric Shock, Proc. Soc. Exper. Biol. & Med. **36**: 634, 1937.
12. Lampson, R. S.; Schaeffer, W. C., and Lincoln, J. R.: Acute Circulatory Arrest from Ventricular Fibrillation for 27 Minutes, with Complete Recovery, J. A. M. A. **137**: 1575 (Aug. 28) 1948.
13. Johnson, J., and Kirby, C. K.: Prevention and Treatment of Cardiac Arrest, J. A. M. A. **154**: 291 (Jan. 23) 1954.
14. Reid, L. C.; Stephenson, H. E., Jr., and Hinton, J. W.: Cardiac Arrest, A. M. A. Arch. Surg. **64**: 409 (April) 1952.

out by the cases would be any more valid. 1. All of these six abruptly arrested hearts were restarted. 2. The two patients in whom anoxia was the primary cause of cardiac arrest died. 3. Each of the three patients in whom effective massage was established within four minutes recovered with brain function intact. 4. Every one of the three patients in whom appreciable delay occurred became decerebrated although cardiac function was restored. 5. Cardiac arrest occurred elsewhere than in the surgical pavillion in two cases and at other times than during operation in four of the six cases. 6. Ventricular fibrillation must be treated actively as long as there is evidence of viability, fully normal recovery having been demonstrated after one hour and 50 minutes of artificially maintained cerebral and cardiac circulation. 7. The common causes of cardiac arrest are recognizable and definable and largely preventable. Full application of knowledge currently available regarding prevention would almost eliminate the complication, except in cardiac surgery itself.

CHEMICAL LABORATORY

XANTHINES, TANNINS, AND SODIUM IN COFFEE, TEA, AND COCOA

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The recent advent on the market of new types of preparations of coffee, tea, and cocoa has created an interest in the xanthine, tannin, and sodium content of these new types as compared with the older accepted forms. This request was prepared because of requests received by the Chemical Laboratory of the American Medical Association for this type of information. The xanthines include such substances as caffeine, theophylline, and theobromine. Tannins are complex materials with a high molecular weight that are formed from phenolic substances such as pyrogallol, pyrocatechol, phloroglucinol, and gallic acid, and these frequently are esterified with sugars. The tannins are recognized as protein and alkaloid precipitants. Differences between the various types of preparations are in most instances the result of the preliminary treatment given to the product by the grower or packager.

Instant coffee is prepared by extracting ground roasted coffee with water. The powdered soluble coffee remains after evaporation of the water from this extract. Decaffeinated coffees are generally prepared by steaming the green beans under pressure to soften them and by dissolving and extracting the caffeine with such organic solvents as benzene, chloroform, or alcohol. The residual solvent in the bean is then removed by resteaming before the roasting process. As yet it has not been possible to extract all the caffeine in commercially prepared coffee. During the roasting process, previously colorless tannins in the coffee bean are oxidized to colored products.

Teas are classified into two general classes, black tea and green tea. The differences arise from the treatment applied to the leaf. Black tea is a fermented product. The fermentation process (oxidation) reduces the astringency of the leaf and changes the color, aroma, flavor, strength, and body of its liquor. Upon fermentation of the tea the colorless tannins turn red or brown, which gives the tea its characteristic color. Green tea is a preparation in which the fermentation process has been arrested by steaming the green leaf and then drying it. The tannins in green teas are in their colorless state, and the lack of formation of the red or brown tannins is considered one measure of a good green tea. Of the xanthines in tea, theobromine and theophylline are present only in trace amounts. The predominant xanthine is caffeine.

The partially fermented cacao bean is the source of chocolate and cocoa. As defined by Webster, chocolate is "the solid or pliable mass obtained by grinding roasted cacao beans which have been freed from germ and shell"; cocoa is "chocolate deprived of a portion of its fat and pulverized." Theobromine is the predominant xanthine in cocoa. During fermentation the tannins are oxidized by oxidase enzymes to form a red coloring matter.

The accompanying tables give the percentage of certain xanthines, tannins, and sodium in several market preparations and the amounts present in a cup of the beverage. The methods of analysis were gravimetric [1] for caffeine, titrimetric [2] for tannins, and flame photometric [3] for sodium. The average values reported are based on duplicate determinations of single samples of material. Differences in the amount of the contents of different brands cannot be considered of significance because not enough samples were studied to establish statistically significant variations. The reported values were determined for the equivalent of a cup of beverage prepared according to the directions given on the label of each product; however, many users of these beverages do not follow label directions and prepare the beverages according to personal preference. Therefore, in most instances complete extraction of the sample was effected in order to determine the maximum quantity of the constituent potentially available. In some cases, contact between the solid and the water was limited to the time for preparation as stated on the label in order to check the amounts of the constituents obtained if the label directions were strictly followed. By this means, direct comparisons of the cups of beverages prepared from the various types of products were made.

The amount of caffeine in each of the several brands of the regular ground bean coffee is about the same (table 1). Tests with brand A indicate that the method of preparing a cup of coffee has little significant effect on the amount of caffeine extracted; extraction of the caffeine by any of the methods of preparation is virtually complete. Almost twice the amount of caffeine per cup can be obtained from the regular ground bean coffee as from the regular instant coffee; in contrast, the tannin content is somewhat higher in the instant type. Caffeine content per cup prepared from the regular ground coffee bean is roughly three times that of the regular decaffeinated coffee and about four to eight times that of instant decaffeinated coffee. Tannin content of the regular ground bean is slightly less than that of decaffeinated coffee. Advertising that makes claims implying the almost total removal of caffeine in decaffeinated coffees must be viewed with skepticism.

The potential caffeine content per cup prepared from bulk black tea is comparable to that from regular ground bean coffee, although, if prepared according to the label, about 65% of the leaf's caffeine is extracted (table 2). There is about three-quarters the amount of caffeine in green tea as in black tea. In general, the tannin content of tea is roughly four times that of coffee. The lower amounts of caffeine and tannins per cup obtained with tea bags are simply the result of the smaller amounts of tea used in each bag, as compared with the amounts recommended for use on the label of the bulk teas. Analyses indicate that there is over twice as much xanthine (theobromine) present in a cup of cocoa (table 3) as there is xanthine (caffeine) in coffee or tea.

A few sodium determinations were done on representative samples of the several types of beverages. These beverages were prepared according to the label instructions. The results indicate that there is about 0.30 to 0.35 mEq. of sodium per cup of coffee and about one-half that amount in tea. About the same amount of sodium is contained in a cup of cocoa as in a cup of coffee; however, over three times the amount of sodium is present in a cocoa produced by the Dutch process (a process in which cocoa is treated with alkali). For the sodium determi-

1. Association of Official Agricultural Chemists: Official Methods of Analysis, ed. 7, Menasha, Wis., the Collegiate Press, George Banta Publishing Company, 1950, pp. 222, 224.
2. Official Methods of Analysis,[1] p. 225.
3. Operating Directions for Model 21 Coleman Flame Photometer, Maywood, Ill., Coleman Instruments, Inc., 1954.

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nations the beverages were prepared with distilled water in order that the measurements would not reflect the sodium content of tap water, which varies with the locality. In calculating the amount of sodium imbibed by patients in drinking a cup of beverage, it is necessary for the physician to take into consideration the amount of sodium in a cup of the local water supply as well as that supplied by the material used for preparing the beverage.

TABLE 1.—*Caffeine, Tannins, and Sodium in Coffee*

	Average Caffeine, %	Maximum Caffeine per Cup, Mg.	Average Tannin, %	Maximum Tannin per Cup, Mg.	Sodium per Cup, mEq.
Regular Coffee					
Ground bean					
Brand A					
Percolator grind	1.1	97	1.1	90	.....
Coffee by 5 min. boiling	...	88	...	78	.....
Coffee by 5 min. percolation	...	95	...	83	.....
Drip grind	1.1	101	1.0	93	.....
Coffee by drip method	...	103*	...	89*	.....
Vacuum grind	1.1	106	1.1	111	.....
Coffee by vacuum method	...	104*	...	98*	.....
Brand B	1.3	119	1.1	104	.....
Brand C	1.5	107	1.0	72	.....
Brand D	1.2	101	1.1	94	0.30*
Instant coffee					
Brand B	2.2	67	4.3	128	.....
Brand D	2.0	55	4.1	111	0.35*
Brand E	2.0	52	4.4	111	.....
"Decaffeinated" Coffee					
Ground bean					
Brand F	0.34	28	1.2	101	0.33*
Brand G	0.33	35	1.2	121	.....
Instant coffee					
Brand F	0.90	25	6.7	187	.....
Brand H	0.37	13	3.8	134	.....

* The amounts per cup reported in these instances are obtained by following label directions for the preparation of the beverage. The remaining figures are based on longer periods of extraction to assure complete removal of the constituents under study.

TABLE 2.—*Caffeine, Tannins, and Sodium in Tea*

	Average Caffeine, %	Maximum Caffeine per Cup, Mg.	Average Tannin, %	Maximum Tannin per Cup, Mg.	Sodium per Cup, mEq.
Bulk Tea					
Black tea					
Brand A	2.9	110	11.8	450	....
Tea by 5 min. steep	...	71*	....	294*	....
Brand B	2.5	101	10.5	431	....
Green tea					
Brand C	1.9	76	11.7	475	....
Tea Bags					
Black tea					
Brand A	2.4	57	9.9	231	....
Tea by 5 min. steep	...	57*	....	197*	....
Brand B	3.3	71	10.4	226	....
Brand C	3.1	67	13.1	284	0.16*
Green tea					
Brand C	1.8	43	9.1	212	0.15*
Instant Tea					
Black tea					
Brand C	6.9	45	14.7	94	....

* The amounts per cup reported in these instances are obtained by following label directions for the preparation of the beverage. The remaining figures are based on longer periods of extraction to assure complete removal of the constituents under study.

TABLE 3.—*Theobromine, Tannins, and Sodium in Cocoa*

	Average Theobromine, %	Maximum Theobromine per Cup, Mg.	Average Tannin, %	Maximum Tannin per Cup, Mg.	Sodium per Cup, mEq.
Bulk Cocoa					
Unsweetened					
Brand A	3.3	284	2.5	215	0.34*
Brand B (Dutch process)	2.5	228	4.0	371	1.13*

* The amounts per cup reported in these instances are obtained by following label directions for the preparation of the beverage. The remaining figures are based on longer periods of extraction to assure complete removal of the constituents under study.

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SPECIAL MESSAGE FROM THE BOARD OF TRUSTEES—

NATIONAL COMPULSORY DISABILITY BENEFITS

The House Ways and Means Committee, without any public hearings, has reported H. R. 7225 to amend the Social Security Act. One proposed amendment is of vital concern to the medical profession because of its potential implications: an amendment to provide cash benefits to certain Social Security beneficiaries who are permanently and totally disabled. In effect, this proposal would establish, for the first time in this country, a system of national compulsory disability "insurance" under Title II of the Social Security Act. This title is the one under which the Old-Age and Survivors Insurance program is conducted.

Because of the piecemeal approach to the socialization of medicine, of which this proposal is the keystone, the medical profession and the nation as a whole have not been as alert to the danger as they were during the 1949-1950 campaign against the Truman-sponsored compulsory health insurance bills. The present danger, in fact, is greater. If this bill is adopted it can be confidently predicted that the cash disability benefits will gradually be extended to the temporarily disabled and that eventually the federal government will initiate a system of compulsory health insurance as a necessary counterpart to the cash benefits program. This combination of national compulsory health insurance and national disability benefits has been true in almost every other nation where government disability benefits exist. The combination becomes inevitable because the government must control the treatment of the disabled if it is to maintain any control over the extent of the cash benefits. In fact, the present bill requires concurrent rehabilitation for the permanently and totally disabled on which the cash benefits will be contingent.

The Social Security Act as adopted in 1935 and as later amended was dedicated primarily to the promotion of government-provided minimum economic security for older retired workers and their survivors. The extension of the act to involve disability was contemplated by many of its proponents from its inception, but not until the Social Security amendments of 1954 was a disability benefit included under OASI. The "waiver of premium" or "disability freeze" provision was enacted at that time whereby certain periods of permanent and total disability were excluded in the computation of benefits under Title II of the act for potential Social Security beneficiaries. With the enactment of this provision, physicians for the first time were brought into the operation of the act, in that their services were required to identify the disabled beneficiaries. The move to extend the "freeze" to include a cash benefit was predicted then and has now become a reality.

On the date of the preparation of this statement, we were exerting every effort to persuade the House of Representatives not to adopt this far-reaching change in the Social Security Act, although we were aware of the fact that our efforts would probably be fruitless. This awareness stemmed from our knowledge that previous proposals to expand the Social Security Act had met with almost unanimous bipartisan political support. Furthermore, the parliamentary situation in the House of Representatives was such that consideration of the bill was limited to 40 minutes of debate and no opportunity to amend.

It is unlikely that this bill will be considered by the Senate at this session of the Congress. When it is considered in the second session, public hearings will probably be held. The profession, therefore, has time to become thoroughly aware of the true nature of this bill and its effect on health insurance and medical practice and to take active steps to develop a public climate that will permit the members of the Senate to vote against it.

During the next several months THE JOURNAL will publish a series of articles on existing state and foreign governmental programs for the provision of cash benefits to the disabled. It is urgent that every physician, if he wishes to exert his full influence in the maintenance of the free practice of medicine, become thoroughly cognizant of the economic impact of these programs.

The distance between our present medical freedom and complete government regimentation has narrowed considerably. The remaining gap will be closed completely unless physicians throughout the nation take constructive action to educate themselves, the public, and their congressmen and senators during the next few months. On page 1036 of this issue of THE JOURNAL is a press release from Dr. Gunnar Gundersen, Chairman of the Board of Trustees, which is reprinted for the information of readers.

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HEMORRHAGIC HAZARDS FROM MASSIVE SALICYLATE THERAPY

Ever since Link and his associates [1] asserted in 1943 that salicylates induced hypoprothrombinemia in rats, a condition preventable by an adequate amount of vitamin K in the diet, considerable experimental and clinical data, in part controversial, have been published with respect to the effects of salicylate therapy on prothrombin. A relation between salicylate therapy and hemorrhage has long been suspected. It is well known, for example, that acetylsalicylic acid may cause gastric bleeding, especially in sensitive persons. Recently, Hawk and his associates [2] reported a case of massive gastrointestinal hemorrhage following the ingestion of 1,400 grains (90.8 gm.) of acetylsalicylic acid over a three week period. In 1885 Balette [3] recognized the relationship between the ingestion of salicylates and uterine hemorrhage, and in 1890 Binz [4] described instances of excessive and prolonged menstrual flow in women receiving salicylic acid. Ever since, occasional reports have appeared pointing out the connection between uterine hemorrhage and salicylate therapy.

Nearly all investigators agree that the salicylates prolong prothrombin time, which indicates a decrease in plasma prothrombin content. The effect on prothrombin content is rarely observed unless large doses of salicylates (more than 6 gm. per day) are ingested, as in the case of patients with acute rheumatic fever. Prothrombinopenia is fairly proportional to the plasma salicylate level up to 60 mg. per 100 cc., but it is rarely critical until higher salicylate levels are reached. These levels are seldom established during a course of salicylate therapy because of the pronounced salicylism that occurs. Although studies in animals suggest that the various salicylates are equally effective in prolonging prothrombin time, acetylsalicylic acid is considerably more potent in some instances. This effect is enhanced by fever and elevated metabolism. The prothrombinopenic action of salicylates is neither as pronounced nor as constant as that of bishydroxycoumarin and other related anticoagulant drugs.[5]

The precise mechanism of salicylate-induced hypoprothrombinemia is undetermined. Although conventional liver function tests presumably do not indicate damage to the hepatic parenchyma after the clinical use of salicylates, nevertheless it has been established that salicylates affect certain enzymatic processes in the liver. Moreover, it has been suggested that both salicylates and bishydroxycoumarin may block the utilization of vitamin K. Administration of vitamin K can overcome the depressant action of salicylates on prothrombin formation. Whether the use of large doses of salicylates in human beings results in frank hemorrhage is still subject to differences of opinion. While adequately studied cases of hemorrhage due to salicylate-induced hypoprothrombinemia appear in the literature, the phenomenon is probably infrequent. Very high plasma salicylate levels are required to reduce the plasma prothrombin content to the critically low level associated with bleeding.

To summarize: Goodman and Gilman maintain that the administration of salicylates in massive doses can appreciably lower the plasma prothrombin content, but only rarely to critical levels. The not infrequent hemorrhagic episodes observed in patients with acute rheumatic fever may be due, at least in some instances, to large doses of salicylates. In general, physicians should be cautious about prescribing massive salicylate therapy for patients with liver damage and with preexisting hypoprothrombinemia or vitamin K deficiency, as well as for patients in whom surgery is contemplated. Use of vitamin K on a prophylactic basis does not necessarily protect patients against hemorrhage, which may ensue as a result of a disease process or of an action of salicylates other than on prothrombin. Finally, salicylates should not be used concomitantly with bishydroxycoumarin.

POSTGRADUATE AND GRADUATE COURSES

In this issue of THE JOURNAL the first annual listing of Postgraduate and Graduate Courses for Physicians appears (pages 1052 to 1131). This listing is for the period September 1, 1955, to August 31, 1956, and has been prepared by the Council on Medical Education and Hospitals. It replaces the two semiannual lists published heretofore. As a result of the recently completed Survey of Postgraduate Medical Education, the new listing includes many more sponsoring institutions than in the past. The two categories of "graduate" and "postgraduate" courses are based on the definitions of these two phases of medical education adopted by the House of Delegates in December, 1952. In brief, graduate medical education is designed to prepare a physician for specialty practice or an advanced academic degree, whereas postgraduate education is designed to keep the physician abreast of his own field of practice or enlarge his knowledge of one specific aspect of it. Most graduate medical education is in the form of residency training, which is not included in this listing. With renewed interest in postgraduate education developing in the past few years, it is hoped that the listings here presented will help to encourage even greater use of postgraduate study by physicians.

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2. Hawk, B. O.; Knight, W. A., Jr., and Thoma, G. E.: Gastrointestinal Hemorrhage from a Large Dose of Acetylsalicylic Acid, J. Missouri M. A. **48**: 716, 1951.

3. Balette, E.: Therapeutic Gazette **9**: 54, 1885.

4. Binz, C.: Vorlesungen über Pharmakologie für Aerzte und Studirende, ed. 2, Berlin, A. Hirschwald, 1891.

5. Goodman, L. S., and Gilman, A. Z.: The Pharmacological Basis of Therapeutics: A Textbook of Pharmacology, Toxicology, and Therapeutics for Physicians and Medical Students, ed. 2, New York, the Macmillan Company, 1955.

ORGANIZATION SECTION

STATEMENT OF DR. EDWIN S. HAMILTON ON H. R. 9 AND H. R. 10 BEFORE COMMITTEE OF THE HOUSE OF REPRESENTATIVES

I am Dr. Edwin S. Hamilton of Kankakee, Illinois, where I am engaged in the active private practice of medicine. I am a member of the Board of Trustees of the American Medical Association.

I appear here today as a representative of that Association to support H. R. 9 and H. R. 10, 84th Congress, measures designed to provide tax deferment on retirement funds for self-employed persons and others not covered by pension plans. With me is Frank G. Dickinson, Ph.D., Director of the Bureau of Medical Economic Research of the Association. At the conclusion of my statement I should like Dr. Dickinson to discuss the technical aspects of these proposals.

At the outset I would like to state that the Americal Medical Association has, for a number of years, endorsed the principle of legislation of this type. We have collaborated closely with representatives of the American Bar Association, the original sponsors of this measure, and other national organizations of self-employed taxpayers who would be afforded some measure of tax equity by the enactment of these bills.

Early in 1948 our Board of Trustees was apprised of a movement then under way to promote enactment of federal legislation under which self-employed persons, including physicians, could provide their own retirement benefits through the deduction of amounts annually from their taxable income to finance retirement plans. The Board approved this movement, stipulating that there would be a reasonable limitation on retirement benefits for which such a provision could be made. This action was commended by our House of Delegates, the governing body of the Association, at its meeting in June, 1948.

In June, 1951, at the annual session of the American Medical Association, three resolutions reemphasizing our endorsement of this principle were adopted by the House of Delegates.

On May 13, 1952, representatives of the Association appeared before this Committee in general support of H. R. 4371 and H. R. 4373, 82nd Congress. At that time, we suggested various amendments to those bills. H. R. 9 and H. R. 10 now before your Committee include all of the basic amendments recommended by the Association in 1952.

In June, 1952, and again in December, 1952, our House of Delegates reiterated the endorsement of these proposals and recommended that each member of the Association give them his careful study and active support.

On Aug. 12, 1953, representatives of the Association again appeared before this Committee in support of H. R. 10 and H. R. 11, 83rd Congress.

It is the belief of the American Medical Association that physicians, dentists, veterinarians, lawyers, architects, merchants, and the many others who comprise the nation's self-employed have long been neglected in federal tax legislation relating to pensions. Under the existing law, corporations are entitled to set aside tax-free money to purchase pensions and annuities for their employees, and millions of employees are benefiting from that arrangement. Yet the self-employed are denied this tax advantage in providing for their old age. The purpose of these bills is to eliminate this discrimination and inequity. By extending the tax deferment privilege to the country's eleven million self-employed, and also to the millions of employees who are not covered by pension plans, this legislation will give them an increased incentive during their best earning years to save for their old age.

Unless something is done to make self-employment as financially attractive as the employee relationship, we believe there is a grave danger that many professional men will bypass the private practice of their profession. The trend today is definitely toward becoming an employed person. This situation also contributes to a maldistribution of physicians, since it makes the large city more attractive to the young professional man by providing more opportunities for him to become employed.

On the basis of my own observations over many years of practice in medicine, I am convinced that this is one of the factors contributing to the pronounced migration of professional people into urban areas. So, quite apart from the objective of obtaining tax equality with our employed counterparts, we urge you to approve legislation of this type, because it is in the public interest.

This legislation will be of particular benefit to physicians and other professional men who go through a long and costly period of training and whose earnings are bunched into a comparatively short period of years when they are subject to high income tax rates.

The need for such relief was demonstrated recently in the Kintner case, in which the status of physicians in group practice, and their pension situation under Section 165 (a) of the old Internal Revenue Code, was in question, although, pointing up the need for the inclusion of physicians, among others, under this section, the case will not be of significant assistance, since less than 5% of our private practitioners are involved.

Under the program proposed in the pending bills, the amount of each person's pension would be determined by his own contributions, without one cent being added by the government. In addition, the program would not force an individual into idle retirement in order to draw upon his pension fund. Most important, it presents an opportunity for all who can provide for their own retirement to do so without undue discrimination against those who work for themselves.

Mr. Chairman, these comments indicate very briefly the general viewpoint of the American Medical Association toward this legislation. Because it removes a discriminatory factor which now discourages the private practice of medicine and other professions, it is in the public interest. Because it relieves an existing inequality, it should commend itself to you. Our Association is glad to join the American Bar Association and the other great national organizations of the self-employed in urging that your Committee act favorably on these bills.

STATEMENT OF DR. FRANK G. DICKINSON ON H. R. 9 AND H. R. 10 BEFORE COMMITTEE OF THE HOUSE OF REPRESENTATIVES

My name is Frank G. Dickinson, Ph.D.—not M.D.—of Evanston, Illinois. After teaching economics at the University of Illinois for twenty-five years, I became the Director of the Bureau of Medical Economic Research of the American Medical Association for whom I am speaking today. For the past three years I have served as the American Medical Association's representative on the Coordinating Committee on Pensions for the Self-Employed and the Pensionless Employed under the chairmanship of Mr. George Roberts of the American Bar Association.

I shall, as Dr. Hamilton of our Board of Trustees has already indicated, confine my remarks to the technical aspects of these identical bipartisan bills H. R. 9 and H. R. 10. I shall refer to them as the Jenkins-Keogh bills.

I shall not dwell on the history of this proposed legislation, but during the past several years certain misconceptions have grown up about this proposed voluntary pension system. I shall try to dispel these illusions.

First, it has been implied both here and elsewhere that what we really need is lower income tax rates for every taxpayer—the self-employed as well as the employed. This is a most disturbing illusion. We are not here today to discuss the general level of income tax rates or the differences between the rates

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for various income groups. We are here to discuss an inequality which will not be removed by a general reduction of income tax rates. There are *only* two ways that this inequality can be eliminated: the provision for tax deferment in Section 401 can be repealed, or legislation can be enacted which abolishes the requirement of an employer-employee relationship for pension plans under Section 401. I submit that these are the only two ways of removing this obvious inequality which has been admitted widely, even by persons opposed to the Jenkins-Keogh bills.

Second, the illusion has been created that these are bills for rich men. This implies that the eleven million self-employed persons are rich and the fifty million employed persons are poor. In 1953, the average annual income of unincorporated enterprisers was $4,107 (Source: National Income, 1954 Edition, U. S. Department of Commerce). Several hundred dollars of this average income—the exact amount is not known—was derived from the ownership of land, buildings, and equipment. The average annual earnings per equivalent full-time employee, for the same year, was $3,590, or $517 less than the average income of self-employed enterprisers. For the 25 year period, 1929-1953, average incomes of self-employed enterprisers exceeded the annual average wages and salaries of those employed by others by only $316. Furthermore, in eleven of these twenty-five years the average annual incomes of self-employed enterprisers were less than the average wages and salaries of the employed. Only earned income is included in employee earnings, that is, only wages and/or salaries. Their income derived from ownership of land, other forms of wealth, and claims on wealth is excluded. This excluded income might average several hundred dollars. It seems likely that the average earned incomes of the employed and the self-employed are about equal. Needless to say, these data do not support the contention that the self-employed are richer or "better off" than the employed.

Third, it has been implied that fringe benefits for employed persons are too small to worry about, too small to complain about. In November, 1954, the Chamber of Commerce of the U. S. reported that fringe benefits for 130 identical companies amounted to 20.2% of payroll in 1953 as compared with 15.2% in 1947. Admittedly, not all of these fringe benefits are applicable to the self-employed, but pension and profit-sharing benefits are definitely applicable to the self-employed. For these two types of fringe benefits the 130 identical companies contributed 8.0% of payroll in 1953 as compared with only 5.6% in 1947. Probably two-thirds of these specific types of fringe benefits mature as retirement benefits. These are not insignificant percentages nor do they involve slight amounts of business expense to the employer. None of this business expense is currently taxable income to the employees. A further indication of the upward national trend in fringe benefits can be gleaned from even a hasty reading of newspaper accounts of the new contracts between the United Automobile Workers and the Ford Motor Company and the General Motors Corporation. This conclusion is inescapable: there is an upward trend in the United States in fringe benefits for employed persons. We live in an era of expanding fringe benefits. But the self-employed person is on the outside looking in, paying his taxes and paying a higher price for consumer goods resulting, in part, from the addition of fringe benefits to labor costs of production.

Fourth, one illusion that has been created about this bill is more disturbing than the others. I refer to the claim that the passage of the Jenkins-Keogh bills would create inequalities against employed people. I want to examine this claim very carefully. According to the U. S. Department of Commerce (National Income, 1954 Edition) $4,927,000,000 was paid out by employers in the U. S. in 1953 as contributions to private pension and welfare plans. Of this $4.9 billion, $3.1 billion was contributed by employers to all manner of profit-sharing plans that normally mature as taxable pensions to the employee. And an additional $1.4 billion was in the form of contributions by the employer to pay premiums on "free group insurance." The remaining $0.4 billion represented employer contributions to other health and welfare plans. So before this legislation could create unbalanced discriminations against employed persons, it would first be necessary to remove the existing discrimination against the self-employed—and, to some extent, against the pensionless employed. To be even more specific, the counterpart of $4.9 billion for 1954—and the figure for 1955 will surely be close to $6 billion—must be found for the self-employed taxpayers who do not participate in this large amount of currently nontaxable income received by more than 21 million persons in forms other than money income. Those who look under the bed for new discriminations that might develop from this type of legislation should examine these data from the Department of Commerce very carefully and should, moreover, appreciate the great and growing extent of present discrimination against the self-employed.

Let me try to clarify this illusion. At first thought, it would seem that the employed person covered by private pension systems would be discriminated against because this proposed legislation would provide the qualified taxpayer with a "vested" interest in the amounts he sets aside and in the interest earned on those amounts. I grant that most employer-employee pension plans do not provide for complete vesting of the employer's contribution to the pension plan and even then only after many years of service to that employer. In particular, a self-employed person under these proposed bills could move from New England to California or change from one type of employment to another without losing complete control of his personal retirement fund. But the claim that this advantage for the self-employed under these bills has no counterpart in the existing programs for the employed is in error. Furthermore, there are no provisions in these bills which provide for the full and complete vesting in the industrial pension sense of the term "vesting" until after age 65. Some of the people who are creating this illusion will grant that there is no complete vesting until age 65 but will hasten to contend that if the self-employed person died before age 65 his accumulated pension fund would become a part of his estate. We must admit the accuracy of the claim, but it is not a discrimination against the employed person whose pension is being provided by his employer. The reason is that $1.4 billion was paid out by employers in 1953 for free group insurance. If an employed person gets from his employer a free life insurance contract paying a death benefit of $5,000 for $10,000, that employee is going to leave a bigger estate than most of the self-employed taxpayers dying before the age of 65, who had responded to the deferment incentive to save for their old age under these bills. In addition, many employed persons have death benefits as a feature of their retirement plans. The self-employed is obviously one person. He has no employer. He keeps the same "employer" as long as he remains a self-employed person. Gains, even forfeitures, to the pension plan resulting from individuals' quitting and seeking employment elsewhere have no economic meaning for the self-employed.

Fifth, there is an illusion that the revenue loss to the government would exceed $100,000,000 a year from the actions of the self-employed taxpayers alone. I have presented to this Committee on two other occasions evidence that $100,000,000 is a high estimate. I have not, however, presented any estimate of the revenue loss from amounts which pensionless employed persons would set aside for their old age under this proposed legislation. For reasons which I cannot understand, the Treasury Department has not provided your Committee with estimates of revenue loss. Perhaps I, as a citizen, should not complain about the failure of the Treasury Department to offer criticism of this estimate of $100,000,000 as a maximum revenue loss from the actions of the self-employed under this proposed legislation. It should be painfully clear to everyone who gives any thought to the question that very few of the self-employed or the pensionless employed will ever put all of their eggs in one basket, in this case, all of their savings in a voluntary pension fund which these bills clearly state cannot be withdrawn until age 65 unless the qualified person dies or becomes disabled for long periods of time. The annual revenue loss on the more than $3 billion now being set aside by employers in approved plans is certainly 10 times as great.

Sixth, there is the illusion that these bills will aid only persons of high income. It is closely related to the second illusion —the notion that all the 11 million self-employed people are rich and all the 50 million employed people are poor. I have stated that there is little difference in their average incomes, but there is another point that needs to be made, namely, that the

propensity to save is the major consideration. Are the rich people in your neighborhood the only ones who save money? Are the poor people in your neighborhood, employed or self-employed persons, the only ones who do not save money? This legislation would not compel anyone to save for his old age. It would encourage the self-employed and the pensionless employed to save for their old age. But the propensity to save is not confined to any one income class, to any one population group, to persons living in cities of a given size, or to one section of the country. The fact is, some people are more concerned than others about the prospect of a penniless old age. I grant that the majority of the younger self-employed—say those under 45 years of age—are not as concerned with their retirement needs. And I also grant that most of these young earners, particularly those under age 35, are in the low earning period of their lives. As they grow older they will become more proficient in their jobs, they will earn more money, and as they get closer and closer to age 65 they will think more and more about providing in advance for their old age. But the claim that this is a rich man's bill, it seems to me, is nothing but an illusion. It must be stressed over and over again that these bills would not compel anyone to save for old age. To those who believe in a free society this is one of the crowning virtues of these bills.

The seventh and last illusion refers to the amount of income that can be set aside each year into a restricted retirement fund. The general rule is 10% of earned income, but not more than $7,500 a year, subject to a lifetime limitation of $150,000 on all the amounts set aside. There is the special rule (paragraph [c], page 3) which permits more than these annual amounts to be set aside each year by those qualified taxpayers over age 55 when these bills become effective. In my previous appearances before this Committee I pointed out in great detail that these provisions would provide for the accumulation of funds which could not finance a cash refund annuity in excess of $1,000 a month starting at the age 70. I also pointed out that more than ¾ of the pension plans approved in recent years under Section 165 (a) (now Section 401 (a) of the Internal Revenue Code) would permit maximum pension in excess of $1,000 a month.

In summary, I should like to review my seven points: First, the present discrimination against the self-employed would persist under any program of general lowering of personal income tax rates. Second, on the average, the self-employed are no "richer" (income-wise) than the employed. Third, fringe benefits for employed persons are large items in the cost of production and the trend in fringe benefits is upward. Fourth, the widespread gift of free life insurance by employers to employees covered by private pension plans (and to other employees) is the counterpart of the estate created by the accumulations in the retirement fund of the self-employed who die before age 65 under the Jenkins-Keogh bills. Fifth, so far as the self-employed are concerned, the annual revenue loss to the Treasury under the Jenkins-Keogh bills will not exceed $100,000,000, as compared with the annual revenue loss on the more than $3 billion set aside annually by employers in approved pension plans. Sixth, these bills will help finance the retirement needs of only those qualified taxpayers who are willing to save, whether they are rich or poor. Seventh, by industrial pension standards only pensions of moderate amount can be financed by qualified taxpayers under these bills.

I submit that these are reasonable demands for equality but I have also in my previous testimony expressed regret that I was not appearing before you in support of a simple resolution—a resolution that would direct the Treasury Department to draft rules whereby the self-employed could establish individual retirement plans, giving them the same tax encouragement to save for old age as is now provided more than 21 million officers and employees of corporations and employees of other establishments and organizations. No doubt the number of approved pension plans is now approaching 30,000 and the number of existing plans, 25,000. If my guess is about right—and the Treasury Department can correct me—there are now not more than 30,000,000 pensionless employed persons.

As a member of the Coordinating Committee, and as an individual, I have given a great deal of thought to an amendment to H. R. 9 and H. R. 10 which would accomplish what I sought by a simple resolution.

At the outset I should like to make it very plain that this amendment has not been considered by the American Medical Association, and is submitted to the Committee for the purpose of study. If it should be incorporated in a bill, or otherwise be presented in printed form as a proposal before this Committee, it will be reviewed in that form by the appropriate bodies of the American Medical Association.

Congressman Keogh, the lawyers representing the American Bar Association, and certain persons on the staff of the Legislative Counsel have helped in drafting this amendment. Moreover, I have been assured by other lawyers that my proposal—which I call the "9th decile limits"—is not an unconstitutional transfer from the Congress to the Treasury Department of the power to enact tax laws.

With the understanding that this amendment has not been considered by the American Medical Association, I should like to present as a final part of my testimony on the illusions that have grown up about the Jenkins-Keogh bills, the basic ideas and the technical features of this proposed amendment, unless the Committee already has received sufficient information from those witnesses who have preceded me.

NATIONAL COMPULSORY DISABILITY BENEFITS

The following news release was issued from the American Medical Association, July 15, 1955.—ED.

Dr. Gunnar Gundersen, La Crosse, Wis., Chairman of the Board of Trustees of the American Medical Association, said today that a Democratic-sponsored plan to extend social security payments to the disabled and to raise taxes to pay for them is "strictly a political maneuver to influence votes."

"If the American people are going to retain their right to spend their money as they wish, they must stand up now and vigorously fight these super-Santa Claus proposals born of politics," Dr. Gundersen said, adding: "The proposals contained in this bill, which was sent to the House last Tuesday, actually provide an illusory benefit at the cost of ever-increasing taxation and loss of personal freedom." Speaking out after the House Ways and Means Committee approved the Social Security proposals by a vote of 21 to 3, Dr. Gundersen said: "A move by the majority of the Committee to railroad through the House an amendment to the Social Security Act which would provide national compulsory disability insurance without public hearings is an outrage. It is not easy to criticize national legislation which superficially appears to be a humanitarian effort to help disabled persons, and it takes courage for a politician to oppose it. Therefore, it is imperative that the American people take a strong stand against this proposal which, if adopted, will go far toward the nationalization of medicine.

"The levying of additional Social Security taxes by the federal government in order to distribute cash benefits to the permanently and totally disabled would inevitably be followed by federal control of the nation's physicians, who would be forced to carry out the regulations established by the government. It is incredible that Congress would consider legislation of such far-reaching implications without a full opportunity for public hearings. The fact is that only four states—New York, New Jersey, Rhode Island and California—have adopted similar legislation and most of the other states have considered and rejected it. In one state—Washington—where the people were given an opportunity through public referendum to pass on it, a bill to establish compulsory state sickness insurance was defeated three to one.

"This federal proposal includes an immediate 25 per cent boost in Social Security taxes and unpredictable future tax increases. A program already exists whereby the federal government and the states jointly participate in providing financial assistance to the permanently and totally disabled who are in need of it. In addition, over 40 million persons are covered by private insurance companies against loss of income because of disability. This legislation is another example of unnecessary federal invasion of a rapidly developing area of private enterprise."

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MEDICAL NEWS

CALIFORNIA

Grant for Chronic Disease Studies.—To assist in the epidemiological studies of the bureau of chronic diseases of the California Department of Public Health, the Rockefeller Foundation recently appropriated $150,000 for a five year period. Among the problems being studied by the California bureau are the relation of occupation and heart disease; occupation and cigarette smoking as factors in lung cancer; nutrition in the health of older persons; and methods of morbidity measurement in the general population. The bureau during the past five years has extended its work, establishing working relationships with universities, local health departments, medical societies, and similar agencies useful in gaining access to and observing specific population groups.

Society News.—The California Society of Plastic Surgeons recently elected the following officers: Dr. James B. Johnson, Beverly Hills, president; Dr. Gerald B. O'Connor, San Francisco, vice-president; and Dr. Benjamin F. Edwards, Los Angeles, secretary-treasurer. The sixth annual meeting will be held at the Del Monte Lodge, Del Monte, March 22-24, 1956.——The following officers were elected by the California Society of Allergy at its annual meeting in San Francisco May 2: president, Dr. Lazarre J. Courtright, San Francisco; president-elect, Dr. Ben C. Eisenberg, Huntington Park; and secretary-treasurer, Dr. William J. Kerr, San Rafael.——The recently established California chapter of the American Foundation for Allergic Diseases has elected the following physician members of the board of directors: Ralph Bookman and George Piness, Los Angeles; Ben C. Eisenberg, Huntington Park; D. Edward Frank, Sun Valley; and Walter R. MacLaren, Pasadena.

MASSACHUSETTS

Appointments in Ophthalmology.—Drs. David G. Cogan and Walter M. Grant have been appointed professor and associate professor of ophthalmology, respectively, at the Harvard Medical School, Boston. They will continue their research and teaching at the Howe Laboratory, Massachusetts Eye and Ear Infirmary, which has been maintained by the Harvard Medical School since 1927.

Poison Information Center.—The Boston Poison Information Center, a cooperative venture of the four pediatric teaching services in the city, has been established at the Children's Medical Center, 300 Longwood Ave., under the sponsorship of the committee on accident prevention of the Massachusetts chapter of the American Academy of Pediatrics. Calls will be received at BEacon 2-2120 at any hour. Information may be obtained from the executive secretary, Dr. Lendon Snedeker (BEacon 2-7800). This service is available to any physician.

Personal.—The University of Louisville conferred an honorary doctor of science degree on Dr. Frederick H. Verhoeff, consulting chief of the Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, at commencement exercises June 5. On June 6 Dr. Verhoeff spoke at the annual postgraduate seminar of the University of Louisville (Ky.) School of Medicine. ——Dr. A. Clifford Barger, associate in physiology at Peter Bent Brigham Hospital, Boston, has been appointed associate professor of physiology at the Harvard Medical School.——Dr. Alfred H. Stanton, chief of the psychiatric closed ward section of the Veterans Administration Hospital, Boston, and assistant professor of psychiatry, Boston University School of Medicine, has been appointed psychiatrist-in-chief of the McLean Hospital, Waverley, and associate professor of psychiatry, Harvard Medical School, Boston.——John F. Enders, Ph.D., Brookline, a 1954 Nobel laureate in medicine, was awarded the honorary degree of doctor of science at the 129th commencement of Trinity College, Hartford, Conn. Dr. Enders is associate professor of bacteriology and immunology at Harvard Medical School, chief of the research department of infectious diseases at Children's Medical Center, Boston, and president of the American Association of Immunologists.

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education, and public health. Programs should be received at least three weeks before the date of meeting.

MICHIGAN

Diabetic Children's Camp.—There are a few openings left for Camp Midicha, the camp for diabetic children sponsored by the Michigan Diabetes Association and the Tau Beta Society. The fee for this camp will be based on the ability of the family to pay. The season is Aug. 14 to Aug. 24. For reservations call Dr. Kathryn L. O'Connor, BR 3-0350, before July 25.

NEW JERSEY

Contest in Orthopedic Surgery.—The New Jersey Orthopaedic Society will make an award annually of $100 in cash for the best original paper in English in the field of orthopedic surgery submitted by an intern or resident (in any field) in a New Jersey hospital. The paper may cover any aspect of the field, such as pathogenesis, pathology, diagnosis, and treatment. The work on which the paper is based must have been done during, and completed not later than six months after, internship or residency in a New Jersey hospital. The paper should be submitted for the current award to the secretary of the society, Dr. Arthur S. Thurm, 533 W. State St., Trenton 8. The winner of the award will be invited to present the paper personally at the spring meeting of the society.

NEW YORK

Dr. Sawyer Receives Kaiser Award.—At the annual meeting of the Rochester Academy of Medicine May 24, the Albert David Kaiser medal for 1955 was awarded to Dr. William Alfred Sawyer, Rochester, "for his distinguished contribution and dedicated service to industrial medicine and to the health and welfare of our community and nation." Dr. Sawyer retired four years ago as medical director of the Eastman Kodak Company after 32 years of service. He is a former president of the Industrial Medical Association and holds the Knudsen award, which he received in 1943.

Dr. Potter Appointed Dean.—Dr. Howard W. Potter, acting dean of the State University of New York College of Medicine at New York City, Brooklyn, has been appointed dean of the college. Dr. Potter, who has been a faculty member for 15 years, has been professor and chairman of the department of psychiatry. Previously, he was a member of the New York Psychiatric Institute of the state department of mental hygiene and clinical professor of psychiatry at Columbia University College of Physicians and Surgeons. During World War II, he was medical supervisor of the Port of New York for Merchant Marine War Shipping Administration, engaged in the rehabilitation of seamen from torpedoed ships. Dr. Potter is a past-president of the American Association on Mental Deficiency, the New York Society for Clinical Psychiatry, and the New York Psychiatric Society.

Society News.—The New York Diabetes Association announces the removal of its offices from 2 E. 103rd St. to Rooms 405 and 406, Building A, 270 Park Ave., New York 17 (telephone: PLaza 3-2266).——Newly elected officers of the New York Academy of Gastroenterology include: Dr. Franz J. Lust, New York City, president; Drs. A. Xerxes Rossien, Kew Gardens, Jerome A. Marks, New York City, and Milton J. Matzner, Brooklyn, first, second, and third vice-presidents respectively; Dr. Joseph Roger Van Dyne, Forest Hills, secretary; Dr. Alexander Slanger, Brooklyn, recording secretary; and Dr. William C. Jacobson, New York City, treasurer.——Newly elected officers

of the Nassau branch of the American Psychiatric Association include: Dr. Lester Shapiro, Rockville Centre, president; Dr. Ursula G. Stewart, Elmont, vice-president; and Dr. Irving Chipkin, Hempstead, secretary.——The Medical Society of the County of New York recently elected the following physicians from New York City as officers: Dr. Gerald D. Dorman, president; Dr. Samuel Z. Freedman, president-elect; Dr. Philip D. Allen, vice-president; Dr. William L. Wheeler Jr., secretary; Dr. George Himler, assistant secretary; Dr. George W. Fish, treasurer; and Dr. Charles F. Stewart, assistant treasurer.

Two-Way Radio for Postgraduate Education.—A new technique of classroom instruction will be launched this fall by Albany Medical College as part of its postgraduate medical education program, under a grant from the Rockefeller Foundation. It envisions the use of a "master transmitter" at the college, which will send lectures and discussions of the teaching staff via high-frequency "amateur" wave lengths to special receivers located in hospitals in the eastern part of upstate New York, where transmitters operating on the same wave length will permit physicians hearing the instructions to take active part in the sessions. The physicians may interpose questions and have them answered immediately by the instructors. There will be opportunity for free discussion between instructors and postgraduate students. It is expected that about 10 institutions will take part. Test sessions indicate that the effective range of the broadcasts may be about 75 miles. The broadcasts will be made on prearranged schedules, and physicians will assemble at the hospitals nearest them to listen to the teaching sessions. The college will continue to conduct its regular program of postgraduate medical education as well as its special teaching days. Dr. Frank M. Woolsey Jr., associate dean, is director of postgraduate education.

New York City

Hospital News.—The Roosevelt Hospital has appointed a full-time clinical research editor, who will assist the staff with bibliography searching, abstracting, and editing of articles and reports for publication.——The Bronx Hospital recently dedicated its new $800,000 Louis Altschul Laboratory building, a two story center adjacent to the main building at Fulton Avenue and 169th Street. The building houses the Bronx Hospital's departments of pathology, chemistry, bacteriology, and related laboratories, in addition to research laboratories for its departments of medicine and surgery. The second floor provides living quarters for the house staff of interns and residents as well as an auditorium.

Cystic Fibrosis Association.—The first of a series of grants for research in cystic fibrosis was recently made by the Cystic Fibrosis Association to the Presbyterian Hospital at the Columbia-Presbyterian Medical Center. The association was organized by a group of 35 parents of children with cystic fibrosis, who early this year began a fund-raising campaign and who on April 1 officially organized the Cystic Fibrosis Association. Their membership has more than tripled and now includes parents from New York, Connecticut, and New Jersey. The association's headquarters, opened early in June, are in the Hotel Martinique, Broadway and 32nd Street. Research work under the grant will be directed by Dr. Dorothy H. Andersen, associate attending pathologist and associate professor of pathology, and Dr. Paul di Sant'Agnese, assistant professor of pediatrics, Columbia University College of Physicians and Surgeons.

Courses in Physical Rehabilitation.—The Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, 400 E. 34th St., will offer a three week seminar in physical rehabilitation methods for nurses, Oct. 24-Nov. 11; Jan. 9-27, 1956; and April 2-20. The course is designed for registered nurses in the hospital as well as in the public health fields. Tuition is $60 for the seminar and $20 weekly for additional clinical observation, practice, and field trips. The institute will also offer a four week advanced course in physical rehabilitation methods for physical therapists, Nov. 21-Dec. 16; Feb. 6-March 2, 1956; and April 30-May 25. Four points of either undergraduate or postgraduate credit will be given. Tuition, $80 ($20 per point); registration, $8. Qualified veterans may enroll in the course under the provision of P. L. 346 or P. L. 16. Information may be requested from Mrs. Edith Buchwald Lawton, Director of Rehabilitation Courses for Physical Therapists, Institute of Physical Medicine and Rehabilitation, 400 E. 34th St., New York 16.

NORTH CAROLINA

Society News.—The North Carolina Pediatric Society recently elected Dr. Wilburt C. Davison, Durham, president; Dr. Charles F. Williams, Raleigh, president-elect; and Dr. William Hersey Davis Jr., Winston-Salem, secretary-treasurer.

Personal.—The North Carolina Public Health Association recently bestowed its Carl V. Reynolds award on Dr. Margery J. Lord, health officer of Asheville for 15 years, and on Dr. Frederick J. Wampler, health officer, Granville County.

Conference on Tuberculosis Control.—The theme for the sixth Institute on Problems in Tuberculosis Control, Chapel Hill, July 31-Aug. 3, will be "Tackling Community Roadblocks Encountered in Rehabilitating the Patient." The institute will be sponsored by the North Carolina Tuberculosis Association; the schools of public health, social work, and medicine of the University of North Carolina, Chapel Hill; the division of vocational rehabilitation; the sanatoriums; and the state boards of health and of public welfare.

Dr. Lawrason Goes to Arkansas.—Dr. F. Douglas Lawrason, assistant dean, University of North Carolina School of Medicine, Chapel Hill, has been appointed provost for medical affairs and acting dean of the University of Arkansas School of Medicine, Little Rock. Dr. Lawrason, who will assume his new duties Aug. 1, will be the chief administrative officer of the new health center, consisting of a 500-bed hospital, with schools of medicine, nursing, and pharmacy. Dr. Lawrason has served as assistant professor of medicine at Chapel Hill since August, 1953. Previously he was on the staff of the Yale University School of Medicine, New Haven, Conn., and with the National Research Council of the National Academy of Sciences in Washington, D. C.

PENNSYLVANIA

Society News.—The Pennsylvania Academy of Physical Medicine and Rehabilitation recently elected the following officers: Dr. Joseph F. Dreier, Wilkes-Barre, president; Dr. James S. Martin, Lancaster, vice-president; and Dr. J. Murl Johnston, Pittsburgh, secretary-treasurer.

Colonel Whayne Appointed Professor.—Col. Tom F. Whayne, U. S. Army Medical Corps, retired, has been appointed professor of public health and preventive medicine at the University of Pennsylvania School of Medicine, Philadelphia, and coordinator of the program of medical education for national defense in the school of medicine.

Philadelphia

University News.—Dr. Elizabeth V. Lautsch, McGill University Faculty of Medicine, Montreal, Canada, has joined the faculty of the Woman's Medical College of Pennsylvania as associate in pathology.

Kober Medal to Dr. Stadie.—At the annual meeting of the Association of American Physicians in Atlantic City, Dr. William Christopher Stadie received the Kober medal, awarded annually by the Kober Foundation at Georgetown University, Washington, D. C., to a member of the association. Dr. Stadie, who was assistant professor of medicine at Yale University School of Medicine, New Haven, Conn., from 1921 to 1924 and assistant professor of research medicine at the University of Pennsylvania from 1924 to 1941, has since served the latter as John Herr Musser Professor of Research Medicine. The Kober Medal is provided for by a $16,000 endowment fund, established in 1923 by the late Dr. George M. Kober to commemorate the 50th anniversary of his graduation in medicine from Georgetown. The fund also pays the expenses of an annual lecture on a medical subject, a scholarship in the Georgetown University School of Medicine, and a gold medal awarded to the best student in hygiene.

WASHINGTON

Bacteriologists Needed.—The Washington State Personnel Board announces an examination for bacteriologists. There is one current opening with the laboratory of the state department of health in Seattle. Positions are also found in local health department laboratories throughout the state. Vacancies occurring in the next two years may be filled by appointments from the eligible list to be established at this time. Applicants must be graduates of an accredited four year college or university, with a major in medical microbiology or a comparable major (medical or public health bacteriology) including laboratory course work in pathogenic bacteria, serologic diagnosis, water and milk bacteriology, and chemistry. Applicants with courses in parasitology, immunology, qualitative and quantitative chemical analysis, physics, mathematics, and zoology will be given preference in appointments. Residence in the state of Washington is not required, but state residents may be given preference in appointment. Applicants must be United States citizens. Applications will be accepted until 5 p. m. Aug. 1, 1955. Information is available from State Personnel Board, 1069 Capitol Way, Olympia (mailing address, P. O. Box 688, Olympia).

WISCONSIN

Hospital News.—Dr. Ernst Schmidhofer, formerly affiliated with the Veterans Administration Center in Jackson, Miss., has been appointed medical director of the Milwaukee County Asylum for Chronic Insane, a position left vacant since the death of Dr. Ralph M. Fellows. Dr. Morris Gelfman, who was formerly with the Veterans Administration Hospital at Downey, Ill., has been named clinical director of the asylum.

Society News.—Drs. Robert G. Washburn, Milwaukee, and Maynard H. Fuller, Green Bay, have been awarded life memberships in the State Medical Society of Wisconsin in recognition of their "achievements in the ranks of medicine." Dr. Washburn served as staff dermatologist for Columbia, St. Mary's, and Milwaukee Children's hospitals. Dr. Fuller has served as president and secretary of the Brown-Kewaunee-Door County Medical Society.

Rare Medical Circulars Sought.—Two rare medical circulars concerning the University of Wisconsin Medical School, Madison, and a private hospital, the Lake Side Retreat, once located on the south margin of Lake Menona near the site of the new headquarters of the State Medical Society of Wisconsin are being sought by the state historical society and the section on medical history of the state medical society. Clues to the circulars, no copies of which are known to exist, are given in a letter, dated Feb. 8, 1857, from Dr. Alexander Schue, former Madison physician and surgeon, to Dr. Robert Peter, chemist of Transylvania College. Any physician knowing of these circulars is urged to contact Dr. William D. Stovall, Chairman, Section on Medical History, State Medical Society of Wisconsin, Box 1109, Madison 1.

GENERAL

Urology Award.—The American Urological Association offers annual awards equaling $1,000 (first prize of $500, second prize $300, and third prize $200) for essays on the result of some clinical or laboratory research in urology. Competition is limited to urologists who have been graduated not more than 10 years and to men in training to become urologists. The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Statler Hotel, Boston, May 28-31, 1956. For particulars write the Executive Secretary, William P. Didusch, 1120 North Charles St., Baltimore. Essays must reach him before Dec. 1, 1955.

Kappa Delta Award.—A prize of $1,000, donated by the Kappa Delta Sorority, is offered annually by the American Academy of Orthopaedic Surgeons for the best research related to orthopedic surgery and performed by an American citizen in the United States. Selection for the current year will be made from publications after Jan. 1, 1953, or research presented to the committee on scientific investigation of the American Academy of Orthopaedic Surgeons before Nov. 1, 1955. Researchers may secure information from the Chairman of the Committee on Scientific Investigation of the American Academy of Orthopaedic Surgeons, Dr. Paul R. Lipscomb, 200 First St., S. W., Rochester, Minn.

Symposium in Psychiatry.—A two day symposium will be held as part of the program of the American Association for the Advancement of Science Dec. 27-28 at Atlanta, Ga. The symposium, "Physiological Bases in Psychiatry," will have four sessions: "New Psychopharmacological Agents," "Mechanisms of Actions in New Agents," "Effects of Alcohol on Brain Respiration and Metabolism," and "Alcohol Addiction-Mechanisms and Treatment." Those wishing to take part in this program may contact either Dr. Harold E. Himwich, Galesburg State Research Hospital, Galesburg, Ill., who is a representative of the American Psychiatric Association, or Fred A. Hitchcock, Ph.D., Ohio State University, Columbus 10, Ohio, who is a representative of the American Physiological Society.

Glycerine Research Awards.—The Glycerine Producers' Association is accepting nominations for the fourth annual Glycerine Research awards. First award is $1,000 and an honor plaque; second award, $300 and an honor certificate; and third award, $200 and an honor certificate. Research bearing on the chemical, physical, or physiological properties of glycerine or on the properties of glycerine-derived or glycerine-containing materials is eligible. Work exhibiting originality in extending glycerine's usefulness in new applications will merit special consideration. Nominations, made on official entry blanks, must be received by Nov. 1, 1955. Details can be obtained by writing to the Awards Committee, Glycerine Producers' Association, 295 Madison Ave., New York 17.

Awards to Teach in Foreign Countries.—Announcement is made of U. S. government awards for the academic year 1956-1957, authorized under the Fulbright Act and presented under the auspices of the Department of State and the Board of Foreign Scholarships. Awards are available for university lecturing and advanced research in Austria; Belgium and Luxembourg; Denmark; Finland; France; Germany; Greece; Iraq; Italy; Japan; Netherlands; Norway; Pakistan and East Pakistan; and the United Kingdom colonial dependencies. Applicants must be United States citizens. Information is obtainable from the Conference Board of Associated Research Councils, Committee on International Exchange of Persons, 2101 Constitution Ave., Washington 25, D. C.

Children's Exocrine Research Foundation.—The Children's Exocrine Research Foundation, a nonprofit organization, has recently been formed to encourage and support research in cystic fibrosis of the pancreas and to disseminate knowledge concerning this disease to the medical profession. Research will also include work on closely related conditions. The foundation, with headquarters at 2300 Westmoreland St., Philadelphia, will welcome applications for research grants. Dr. Sidney Farber, Boston, is chairman of the Scientific Advisory Board and Dr. Paul R. Patterson, Albany, N. Y., is chairman of the Medical Education Committee. The organization does not conduct public campaigns or solicit funds from the general public. Money is raised through grants from other foundations interested in medical research and from selected corporations and individuals.

Fellowship in Rheumatic Fever.—The New York State Department of Health has made available a grant to provide a fellowship in rheumatic fever of one year for a physician with a good general or pediatric background who lacks specific training in this field. Priority will be given to a physician wishing to make full-time teaching, research, or public health a career and who has an interest in children's rheumatic fever and related programs. The major part of the training will be at the New York University-Bellevue Medical Center and at Irvington House, a special institution at Irvington-on-Hudson, N. Y., for rheumatic children, affiliated with the New York University-Bellevue Medical Center. The budget for the fellowship is as follows: (1) stipend, $4,200; (2) travel expenses, $800. Applicants should write to the Medical Director, Irvington House, Irvington-on-Hudson, N. Y.

Prevalence of Poliomyelitis.—According to the National Office of Vital Statistics, the following number of reported cases of poliomyelitis occurred in the United States and its territories and possessions in the weeks ended as indicated:

Area	July 2, 1955 Paralytic Type	July 2, 1955 Total Cases Reported	June 3, 1954, Total
New England States			
Maine	..	..	2
New Hampshire	..	..	..
Vermont	..	..	..
Massachusetts	..	1	5
Rhode Island	..	..	..
Connecticut	1	5	6
Middle Atlantic States			
New York	17	25	23
New Jersey	..	5	6
Pennsylvania	..	10	6
East North Central States			
Ohio	1	22	20
Indiana	..	4	9
Illinois	4	10	14
Michigan	3	9	21
Wisconsin	5	9	3
West North Central States			
Minnesota	2	2	10
Iowa	1	10	13
Missouri	1	4	7
North Dakota	2	3	3
South Dakota	..	..	..
Nebraska	..	3	14
Kansas	..	2	16
South Atlantic States			
Delaware	..	1	1
Maryland	1	3	..
District of Columbia	1	1	..
Virginia	1	8	5
West Virginia	1	3	3
North Carolina	6	8	10
South Carolina	1	6	9
Georgia	3	5	24
Florida	1	10	40
East South Central States			
Kentucky	1	3	6
Tennessee	1	3	6
Alabama	..	8	5
Mississippi	3	9	10
West South Central States			
Arkansas	2	5	11
Louisiana	9	17	18
Oklahoma	1	4	13
Texas	20	43	104
Mountain States			
Montana	Not available	Not available	1
Idaho	6	..	..
Wyoming	..	1	12
Colorado	4	6	8
New Mexico	6	10	3
Arizona	2	6	6
Utah	..	2	6
Nevada	..	6	1
Pacific States			
Washington	2	3	3
Oregon	1	3	2
California	13	25	74
Territories and Possessions			
Alaska	..	..	2
Hawaii	..	1	10
Puerto Rico	9	9	..
Total	132	340	574

FOREIGN

Symposium Neuroradiologicum.—A Symposium Neuroradiologicum will be held in London, England, Sept. 13 to 17 at the University of London, Malet Street, W. C. 1. Radiologists, neurologists, and neurosurgeons particularly are welcome. The subjects for discussion include (1) cerebrovascular disease, (2) localization of intracranial tumors by means of isotopes, (3) applications of stereotaxometry, (4) new techniques, and (5) various preferred papers on a variety of neuroradiological subjects. Participants from the United States include: Dr. Harry A. Kaplan, Brooklyn, N. Y.; Drs. Juan M. Taveras and Fritz J. Cramer, New York City; Drs. William H. Sweet and Bertram Selverstone, Boston; and Drs. Frederick Murtagh and Ernest A. Spiegel, Philadelphia. A joint half-day session with the second International Congress of Neuropathology, meeting simultaneously in London, is projected. A social program has been arranged. Information may be obtained from Dr. R. D. Hoare, Secretary, Symposium Neuroradiologicum, The National Hospital for Nervous Diseases, Queen Square, London W. C. 1.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.

1956 Annual Meeting, Chicago, June 11-15.

1956 Clinical Meeting, Seattle, Nov. 27-30.

1957 Annual Meeting, New York, June 3-7.

AMERICAN MEDICAL ASSOCIATION PUBLIC RELATIONS INSTITUTE, Drake Hotel, Chicago, Aug. 31- Sept. 1. Mr. Leo E. Brown, 535 N. Dearborn St., Chicago 10, Director.

AMERICAN ASSOCIATION OF NURSING HOMES, Hotel Muehlebach, Kansas City, Mo., Sept. 19-21. Mr. Ira O. Wallace, P.O. Box 366, New Castle, Ky., Secretary.

AMERICAN ASSOCIATION OF OBSTETRICIANS, GYNECOLOGISTS AND ABDOMINAL SURGEONS, The Homestead, Hot Springs, Va., Sept. 8-10. Dr. Frank R. Lock, Bowman Gray School of Medicine, Winston-Salem, N. C., Secretary.

AMERICAN CONGRESS OF PHYSICIAL MEDICINE AND REHABILITATION, Hotel Statler, Detroit, Aug. 28-Sept. 2. Dr. Frances Baker, 30 North Michigan Ave., Chicago 2, Secretary.

AMERICAN PHYSIOLOGICAL SOCIETY FALL MEETING, Tufts College, Medford, Mass., Sept. 6-9. Dr. Allan C. Burton, Univ. of Western Ontario, London, Ont., Canada, Secretary.

AMERICAN VETERINARY MEDICAL ASSOCIATION, Radisson Hotel and Auditorium, Minneapolis, Aug. 15-18. Dr. J. G. Hardenbergh, 600 South Michigan Blvd., Chicago 5, Executive Secretary.

BIOLOGICAL PHOTOGRAPHIC ASSOCIATION, Wisconsin Hotel, Milwaukee, Aug. 30-Sept. 2. Miss Jane H. Waters, c/o Pavelle Color, Inc., 533 W. 57th St., New York 19, Executive Secretary.

MONTANA MEDICAL ASSOCIATION, Baxter Hotel, Bozeman, Sept. 15-18. Mr. L. R. Hegland, P.O. Box 1692, Billings, Executive Secretary.

NATIONAL MEDICAL ASSOCIATION, Los Angeles, Aug. 8-11. Dr. John T. Givens, 1108 Church St., Norfolk 10, Va., General Secretary.

NEVADA STATE MEDICAL ASSOCIATION, Riverside Hotel, Reno, Aug. 18-20. Dr. William A. O'Brien III, 505 Chestnut St., Reno, Secretary.

NEW ENGLAND HEALTH INSTITUTE, Colby College, Waterville, Me., Aug. 30-Sept. 1. Dr. Edward W. Colby, City of Portland Health Dept., Portland, Me., Chairman.

PACIFIC DERMATOLOGIC ASSOCIATION, Mexico, D. F., Mexico, Aug. 22-24. Dr. Ben A. Newman, 436 N. Roxbury Drive, Beverly Hills, Calif., Secretary.

REGIONAL MEETINGS, AMERICAN COLLEGE OF PHYSICIANS: Jamestown, N. D., Sept. 10. Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Executive Secretary.

RENO SURGICAL SOCIETY, Reno, Nev., Aug. 18-20. Dr. James R. Herz, 509 Humboldt St., Reno, Nev., Secretary.

ROCKY MOUNTAIN RADIOLOGICAL SOCIETY, Shirley-Savoy Hotel, Denver, Aug. 18-20. Dr. John H. Freed, 4200 East 9th St., Denver 20, Secretary.

SOCIETY OF GENERAL PHYSIOLOGISTS, Marine Biological Laboratory, Woods Hole, Mass., Sept. 9-10. Dr. A. M. Shanes, National Institutes of Health, Bethesda 14, Md.

SOUTHWESTERN SURGICAL CONGRESS, Muehlebach Hotel, Kansas City, Mo., Sept. 5-7. Dr. C. M. O'Leary, 207 Plaza Court Bldg., Oklahoma City, Secretary.

U. S. CHAPTER, INTERNATIONAL COLLEGE OF SURGEONS, Convention Hall, Philadelphia, Sept. 12-15. Dr. Karl Meyer, 1516 Lake Shore Drive, Chicago 10, Secretary.

UTAH STATE MEDICAL ASSOCIATION, Union Bldg., Salt Lake City, Sept. 8-10. Mr. H. Bowman, 42 S. Fifth East St., Salt Lake City 2, Executive Secretary.

WASHINGTON STATE MEDICAL ASSOCIATION, Olympic Hotel, Seattle, Sept. 11-14. Dr. Frederick A. Tucker, 1309 Seventh Ave., Seattle 1, Secretary.

WEST VIRGINIA STATE MEDICAL ASSOCIATION, White Sulphur Springs, Aug. 18-20. Mr. Charles Lively, P. O. Box 1031, Charleston 24, Executive Secretary.

EXAMINATIONS AND LICENSURE

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: *Part I*, Sept. 6-7. Candidates may file applications at any time, but the National Board must receive them at least six weeks before the date of the examination. New candidates should apply by formal registration; registered candidates should notify the board by letter and forward their fees. Exec. Sec., Dr. John B. Hubbard, 133 South 36th St., Philadelphia 4.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY: *Oral*. New York City, Oct. 23-27. Sec., Dr. Curtiss B. Hickcox, 80 Seymour St., Hartford 15.

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY: *Oral.* Washington, D. C., Oct. 14-16. Final date for filing application was March 15. Sec., Dr. B. M. Kesten, One Haven Ave., New York 32, N. Y.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral.* Portland, Ore., Sept. 14-16; Chicago, Nov. 30-Dec. 1. *Subspecialties, Cardiovascular Disease.* Chicago, Nov. 30. The closing date for acceptance of applications for gastroenterology was Feb. 1, and for cardiovascular disease the closing date was June 1. Exec. Sec., Dr. William A. Werrell, 1 West Main St., Madison 3, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral.* New Haven, November. Oral examinations given in Spring and Fall. Final date for filing application for the Spring examination is October 1; for the Fall examination April 1. Sec., Dr. Leonard T. Furlow, Washington University School of Medicine, St. Louis 10.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: Applications for certification for the 1956 Part I examinations are now being accepted. Final date for filing application is Oct. 1. Dr. Robert L. Faulkner, 2105 Adelbert Road, Cleveland 6.

AMERICAN BOARD OF OPHTHALMOLOGY: *Practical Examination.* Chicago, Oct. 9-14. Final date for filing application for 1955 practical examination was July 1, 1954. *Written.* January, 1956. Final date for filing application was July 1. *Practical Examination.* St. Louis, Oct. 20-25. Sec., Dr. Merrill J. King, Box 236, Cape Cottage Branch, Portland 9, Maine.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Final date for filing application for the Part II examination to be given in January 1956 is Aug 15. Sec., Dr. Harold A. Sofield, 116 South Michigan Ave., Chicago 3.

AMERICAN BOARD OF OTOLARYNGOLOGY: *Oral.* Chicago, Oct. 3-7. Final date for filing application is April. Sec., Dr. Dean M. Lierle, University Hospitals, Iowa City.

AMERICAN BOARD OF PEDIATRICS: *Oral.* Chicago, Oct. 7-9; and Washington, D. C., Dec. 2-4. Admin. Sec., Mrs. John McK. Mitchell, 6 Cushman Road, Rosemont, Pa.

AMERICAN BOARD OF PLASTIC SURGERY: *Oral and Written.* Philadelphia, Sept. 22-24. Corres. Sec., Miss Estelle E. Hillerich, 4647 Pershing Ave., St. Louis 8.

AMERICAN BOARD OF PREVENTIVE MEDICINE: *Certification in Public Health.* Kansas City, Mo., Nov. 10-12. Sec.-Treas., Dr. Ernest L. Stebbins, 615 N. Wolfe St., Baltimore 5.

AMERICAN BOARD OF PROCTOLOGY: *Part II.* Philadelphia, Sept. 17. Sec., Dr. Stuart T. Ross, 131 Fulton Ave., Hempstead, N. Y.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: San Francisco, mid-October; New York City, December. Sec., Dr. David A. Boyd, 102-110 Second Ave. S.W., Rochester, Minn.

AMERICAN BOARD OF RADIOLOGY: Chicago, Dec. 4. Final date for filing applications for the fall examination was July 1. Candidates who will complete their training by Dec. 31 will be eligible to appear for this examination. Sec., Dr. B. R. Kirklin, Kahler Hotel Bldg., Rochester, Minn.

AMERICAN BOARD OF SURGERY: *Part I.* Centers throughout the United States, in Europe and in the Far East, Oct. 26 and March 28. Closing date for the October examination was July 1 and for the March examination is December 1. *Part II.* Buffalo, Sept. 26-27; Chicago, Oct. 27-28; New York City, Nov. 14-15; St. Louis, Dec. 12-13; New Orleans, Jan. 16-17; Los Angeles, Feb. 13-14; San Francisco, Feb. 16-17; Durham, Mar. 12-13; Boston, May 14-15 and Philadelphia, June 4-5. Sec., Dr. John B. Flick, 255 S. Fifteenth St., Philadelphia 2.

THE BOARD OF THORACIC SURGERY: *Written.* Various Centers, Sept. 9. Final date for filing applications was July 1. Sec., Dr. Wm. M. Tuttle, 1151 Taylor Ave., Detroit 2.

MAGAZINE–TELEVISION REPORT

The following list of current medical articles appearing in mass-circulation magazines on medical subjects is published each week only for the information of readers of THE JOURNAL. *Unless specifically stated, the American Medical Association neither approves nor disapproves of the articles herein reported.*

MAGAZINES

Life, July 11, 1955

"Mental Illness: The New Hope"

In a full-page editorial, *Life* editors say that "signs of a double breakthrough (psychiatric treatment and new drugs) on our No. 1 disease justify a national effort." The editorial says the solution to the problem is not in building more hospitals. "It is in emptying the ones we have—by preventing new cases from developing and by getting the existing ones out." *Life* concludes: "the goals should be threefold—to train thousands of new psychiatrists to remedy the present inadequacy, to finance scores of low-cost psychiatric clinics where mental illness can be checked before it grows serious, and finally to finance much greater research into the whole field of mental chemistry."

U. S. News & World Report, July 15, 1955

"What You Should Know About Health," interview with Dr. Robert Collier Page

A past-president of the Industrial Medical Association answers questions on health problems of executives and employees. He points out that an industrial physician works closely with the family physician. He treats only in an emergency and refers executives and employees to private physicians when medical care is indicated.

American Legion Magazine, July, 1955

"Public Health Disgrace No. 1," by Caroline Bird

U. S. Public Health Service Veterinarian Dr. James H. Steele calls rabies "our number one public health disgrace." He urges action to eliminate the problem. According to the article, "the only way to wipe out rabies in the United States is to get 70 per cent of our dog population vaccinated and keep that percentage vaccinated by enforcing dog control laws."

Coronet, August, 1955

"X-Rays Can Be Dangerous," by Lydia Strong

Wilhelm Konrad von Röntgen's discovery of the x-ray in 1895 "revolutionized medicine." In spite of its great value, "The National Committee on Radiation Protection . . . points out forcefully the need for doctors 'to exercise great caution and restraint in the use of x-rays for diagnosis and the treatment of nonmalignant diseases.'" The article warns patients against demanding x-ray treatment and urges them to let the doctor decide whether radiation is necessary.

"The Newest Facts About Baldness," by Veronica L. Conley

Condensed from *Today's Health*, this article by the Assistant Secretary of the American Medical Association's Committee on Cosmetics points out that cures for baldness have one thing in common—"they fail to grow hair." She says "the physician's greatest task is usually assisting the young man to make an adequate adjustment to this cosmetic disturbance, with which he will have to live for the rest of his life."

"Ceiling of Hope," by Gerald Nelson

A nonprofit organization manufactures ceiling projectors and films for use in sickrooms and hospitals. In connection with this article, American Medical Association President Dr. Elmer Hess says: "The morale and mental well-being of a bedridden patient is of extreme importance. Any device that can while away the hours for a sick person—like the ceiling projector reported in this *Coronet* article—is indeed a blessing."

Saturday Evening Post, July 16, 1955

"Healing by High Frequency," by Milton Silverman

"Last year . . . it was estimated that more than 4,000 ultrasonic devices were being used in this country alone to treat several hundred thousand patients afflicted with a wide assortment of painful, crippling ailments of bones, joints and muscles. The sound beams . . . were rarely if ever curative in themselves, but combined with other forms of treatment and administered by skilled and experienced physicians, they were giving significant relief to many of the victims."

"How to Avoid Sudden Death," by Steven M. Spencer

In an article recommending the use of automobile seat belts, the author reports on the medical profession's active interest in this campaign. He quotes Dr. R. Arnold Griswold, chairman of the American College of Surgeons' Committee on Trauma, and Dr. Horace E. Campbell, chairman of the Automobile Safety Committee of the Colorado State Medical Society.

DEATHS

Adams, James Frederick, Catonsville, Md.; University of Maryland School of Medicine, Baltimore, 1894; died in the University Hospital, Baltimore, June 10, aged 85, of carcinoma of the prostate.

Andrus, Adellon Devilla ✙ Ashland, Wis.; University of Colorado School of Medicine, Denver, 1912; served during World War I; at one time a medical officer of the Indian Service; died May 22, aged 72, of heart disease.

Armentrout, Charles Henry ✙ Asheville, N. C.; Medical College of Virginia, Richmond, 1931; specialist certified by the American Board of Surgery; commissioned in the U. S. Naval Reserve during World War II and was awarded the Unit Citation and the Purple Heart; fellow of the American College of Physicians; on the staffs of the Memorial Mission and St. Joseph's hospitals; senior consultant in medicine at Veterans Administration Hospital in Swannanoa, N. C.; died in the Memorial Mission Hospital May 19, aged 47, of coronary thrombosis.

Bookmyer, Ralph Hugh ✙ Detroit; Detroit College of Medicine and Surgery, 1915; fellow of the American College of Surgeons; served on the staffs of the Providence and Mount Carmel Mercy hospitals; died June 7, aged 71, of acute coronary thrombosis.

Braff, Max Mark, Boston; Boston University School of Medicine, 1917; served during World Wars I and II; member of the Massachusetts Medical Society; died in the Beth Israel Hospital June 7, aged 63, of cerebral hemorrhage.

Collins, George Robert, Avon, N. Y.; University of Buffalo School of Medicine, 1912; health officer for the town and village of Avon; served as a member of the board of education of Avon Central School and for many years its school physician; died April 27, aged 66, of coronary occlusion.

Cooper, John Steward Stevens, Lansdowne, Pa.; Jefferson Medical College of Philadelphia, 1891; died Feb. 18, aged 86, of carcinoma of the colon.

Doerann, August Frederick ✙ Evanston, Ill.; Illinois Medical College, Chicago, 1906; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1910; died in St. Francis Hospital June 12, aged 75, of gastrointestinal hemorrhage and gastric ulcer.

Epstein, Jacob Israel ✙ Cleveland; Tufts College Medical School, Boston, 1927; on the staff of the Crile Hospital; died in Ravenna May 6, aged 51, in an automobile accident.

Fayerweather, Rhoades, Kahuku, Hawaii; Johns Hopkins University School of Medicine, Baltimore, 1903; died Feb. 1, aged 77, of coronary occlusion.

Franks, Arthur Jr. ✙ Harrisburg, Ill.; St. Louis University School of Medicine, 1950; interned at the St. Mary's Hospital in East St. Louis; died May 3, aged 39, of melanoma.

Gaebler, Arthur ✙ St. Petersburg, Fla.; College of Physicians and Surgeons, Chicago, 1895; formerly practiced in Chicago, where he was on the staff of the Englewood Hospital; died May 15, aged 88, of hypertensive heart disease.

Greider, William Henry ✙ Tulsa, Okla.; Kansas Medical College, Medical Department of Washburn College, Topeka, 1911; died Feb. 28, aged 89.

Hartwell, Arthur Spear ✙ Norwood, Mass.; Jefferson Medical College of Philadelphia, 1897; fellow of the American College of Surgeons; formerly medical examiner of Norfolk County; one of the founders of the Norwood Hospital; died Feb. 25, aged 85, of cerebral thrombosis.

Johns, William Alexander ✙ Corinth, Miss.; Memphis (Tenn.) Hospital Medical College, 1894; formerly secretary of the Alcorn-Tishomingo Counties Medical Society; died June 7, aged 86, of carcinoma of the prostate.

✙ Indicates Member of the American Medical Association.

Kilborn, Melville Graves, West Orange, N. J.; Jefferson Medical College of Philadelphia, 1930; member of the Medical Society of New Jersey; specialist certified by the American Board of Anesthesiology; member of the American Society of Anesthesiologists; on the staff of Orange Memorial Hospital; died in Livingston April 1, aged 51, of rheumatic heart disease.

Lum, Paul Albert, Whittier, Calif.; University of California Medical School, San Francisco, 1930; at one time health officer of Dos Palos; served during World War II; died in the Veterans Administration Hospital in Long Beach May 17, aged 53, of acute adrenal insufficiency, lobar pneumonia, and carcinoma of the stomach.

Lynn, Arthur Ray, Marshalltown, Iowa; State University of Iowa College of Medicine, Iowa City, 1905; past-president of the Marshall County Medical Society; on the staffs of the Evangelical Deaconess Home and Hospital and St. Thomas Mercy Hospital; died April 27, aged 71, of cerebral vascular accident with hemiplegia.

Mathews, William Joseph ✙ Hoboken, N. J.; Medico-Chirurgical College of Philadelphia, 1900; for many years on the staff of St. Mary's Hospital; died May 31, aged 79, of arteriosclerotic heart disease.

Palmer, Robert Vickery ✙ Avenue, Md.; University of Maryland School of Medicine, Baltimore, 1895; a trustee of St. Mary's Seminary Junior College, St. Mary's City; died in the University Hospital, Baltimore, Feb. 19, aged 83, of pneumonia.

Park, Irving Herman ✙ Brookline, Mass.; Middlesex College of Medicine and Surgery, Waltham, 1937; served during World War II and won the Distinguished Service Cross; died in the New England Medical Center, Boston, May 30, aged 43, of cerebral vascular accident, thrombocytopenia, and acute myelogenous leukemia.

Payne, Redmond Wellington, San Francisco; Cooper Medical College, San Francisco, 1889; died April 18, aged 89.

Rivin, Henry Albert ✙ Delano, Calif.; Jefferson Medical College of Philadelphia, 1919; served during World War I; died May 21, aged 58.

Robinson, W. Joseph ✙ Creston, N. C.; University Medical College of Kansas City, Mo., 1904; died in the Ashe County Memorial Hospital in Jefferson April 26, aged 75, of heart disease.

Rost, Walter Franz H., New Paltz, N. Y.; Schlesische Friedrich-Wilhelms-Universität Medizinische Fakultät, Breslau, Prussia, Germany, 1923; honored with a presidential citation for his medical work with the local draft board; on the staffs of the Kingston and Benedictine hospitals in Kingston; died April 25, aged 55, of coronary thrombosis.

Savage, Philip Monroe ✙ San Bernardino, Calif.; Cooper Medical College, San Francisco, 1907; fellow of the American Public Health Association and the American College of Surgeons; was superintendent of San Bernardino County Charity Hospital and on the staffs of St. Bernardine's and St. Bernardino County Charity hospitals; died May 31, aged 74, of carcinoma of the prostate.

Spann, Sylvester A., Meridian, Okla.; Meharry Medical College, Nashville, Tenn., 1914; died May 19, aged 73, of peritonitis.

Stephenson, George William ✙ Coos Bay, Ore.; University of Oregon Medical School, Portland, 1951; interned at the Providence Hospital and served a residency at the University of Oregon Medical School Hospitals and Clinics in Portland; an associate member of the American Medical Association; died May 13, aged 38, as the result of an automobile accident.

Sullivan, Michael Joseph, Meriden, Conn.; Cornell University Medical College, New York City, 1900; formerly city health officer; on the staff of Meriden Hospital; died May 12, aged 78, of arteriosclerotic heart disease.

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FOREIGN LETTERS

AUSTRIA

Phonocardiographic Changes After Operation for Mitral Stenosis.—At the meeting of the Society for Internal Medicine in Vienna on Feb. 17, Dr. W. Auinger reported that phonocardiograms made in eight patients with mitral stenosis before and after they had been operated on revealed characteristic changes that permitted evaluation of the operative success. These changes consisted of prolongation of the first heart sound and doubling of the interval between the first and second sounds, which after the operation were found to approach more nearly to normal. The respiratory curve proved to be a reliable aid in differentiating the mitral opening sound from a reduplication of the second heart sound and from the third heart sound, as it showed a change of the reduplication distance within the single respiratory phases but no change in the doubling of the interval.

Antihuman Globulin Deviation.—At the same meeting, Dr. C. Steffen stated that it is now possible to study with the aid of the Coombs test, the conglutination methods, the thrombocytes-Coombs test, and various methods of agglutination the occurrence of autoantibodies against erythrocytes, thrombocytes, and leukocytes. All these methods, however, use cell indicators, to which one binds the antigenic cell extracts, that indicate the course of an antigen-antibody reaction by an unspecific agglutination. Thus a reaction environment is produced that does not correspond with the immunobiological process in the body. Fixation of the antibodies in the tissue cells cannot be directly demonstrated by these methods.

The antihuman globulin deviation method, however, makes it possible to demonstrate in the same manner an antibody that has become fixed in blood and tissue cells, for example, an incomplete Rh-immune body in Rh-erythrocytes. The principle of this method consists in the incubation of lyophilized tissue or blood cells with a serum that is suspected to contain an antibody with a specificity against a substrate of the cells used. After incubation the cells are washed free from proteins under refrigeration, and the centrifuged cell pulp is mixed with a Coombs serum of known titer. After a certain deviation interval the mixture is centrifuged and the supernatant Coombs serum is retested for its activity. The testing of the activity of other Coombs' serum before and after the antihuman globulin deviation is made with O-Rh-erythrocytes that are loaded with a monovalent Rh-immune body of high titer. For control purposes incubation is always carried out with a normal serum in parallel with that of the serum obtained from the patient; the same amount of tissue substrate is incubated and subsequently a similar determination of the antihuman globulin deviation is made.

When antibodies are present in the serum, they saturate the tissue substrates in the course of the incubation. In a protein-free reaction environment the known antihuman globulin activity of the Coombs serum is reduced in the subsequent deviation by the fixed antibodies in the tissue substrate as a result of the human globulin property of these antibodies. This is shown by a loss of titer of the Coombs serum before and after the deviation by the experimental cells, while such a loss of titer does not occur in the control experiments with normal serum. The direct form of the method appears to be of such a type that with the cells of the patient himself an antihuman globulin deviation is carried out. The reliability of the method was first tested on erythrocytes that had been artificially saturated with incomplete antibodies, and the suitability of the method for demonstrating autonomous antibodies was ascertained. In immunothrombopenia and immunoneutropenia the antihuman globulin deviation method was tested and used successfully to demonstrate antithrombocyte and antileukocyte antibodies in the serums of patients. Lyophilized suspensions of thrombocytes and leukocytes were used as a saturated substrate.

In addition to Cavelti's experimental work, the antihuman globulin deviation was applied clinically to patients with polyarthritis and with rheumatic endocarditis. Control experiments showed that a lyophilized substrate is as efficient in producing saturation as a native substrate, and consequently the method can be used for routine diagnostic purposes. Mixtures of tissue from heart, muscle, capsular ligament, and cardiac and muscular tissues alone were used as substrates. Many serums obtained from patients with polyarthritis and rheumatism were studied and results showed an appreciable antihuman globulin deviation between the experimental and the control serum. This antihuman globulin deviation can be traced back only to the presence in the serum of rheumatic patients of a substance with the properties of human globulin that is specific with regard to the tissue used. This substance is believed to be an incomplete antibody. This concept has been confirmed by the results of absorption experiments. Furthermore the substance obtained from the serums of rheumatic patients, after being saturated specifically with the used substrates, could be broken off from the substrates, demonstrated in the eluates, and resaturated from the eluates on the substrates again. The antibody could be absorbed quantitatively from the serum of a rheumatic patient to the substrate that had been used for saturation. The serum, which had been taken off with a pipet after being saturated, behaved like a normal serum in the repeated saturation experiment.

It is concluded that the antihuman globulin deviation presents a method by which antibodies fixed to blood and tissue cells and the circulation of antibodies with a certain tissue specificity may be demonstrated in the serum. Because of the ease with which this method is carried out, it is suitable for routine diagnosis.

Resection of the Hip.—At a meeting of the Society of Physicians in Vienna Feb. 18, Dr. A. Sonnenschein emphasized that it is still too early for an evaluation of the plastic operation on the hip joint with the use of endoprostheses because of the possible later occurrence of deficiency of the used synthetic material or its limited bearing strength. Consequently resection of the head and occasionally also the neck of the femur and adjustment of the stump to the acetabulum is recommended. Follow-up examinations were made on 71 patients who underwent resection of the hip joint for chronic hip diseases. The results in 44 were good and in 27 poor. As compared with plastic operations on the hip joints using artificial epiphyses, the resection of the proximal end of the femur depends on the natural powers of healing, adjustment, and transformation.

Causes of Granulocytopenia.—At the same meeting Dr. H. Fleischhacker stated that the normal number of leukocytes depends on new formation in the bone marrow and the extent of the destruction in the peripheral blood. Central influences exert a regulatory influence. Granulocytopenias may be caused by impairment of the bone marrow; chemical, toxic, and infectious influences; and radium and roentgen irradiation. Among the forms of granulocytopenia characterized by a tumor of the spleen, the myelosclerosis with extramedullary formation of blood, hypersplenism, and splenic anemia must be distinguished. Differentiation is possible with the aid of sternal puncture and biopsy of the spleen. Granulocytopenias caused by allergic and autoimmune bodies are the result of a peripheral destruction of leukocytes. Leukocyte antibodies in a woman with cyclic agranulocytosis of five years' duration were demonstrated by blood transfusion into healthy persons and in vitro with the aid of leukocyte agglutination, the antihuman globulin test, and Finch's sedimentation test. The clinical manifestations improved markedly with splenectomy. Postoperatively menstruation was no longer associated with the occurrence of granulocytosis, but the granulocytes still showed the typical variations and the leukocyte antibodies remained unchanged. With regard to the treatment of agranulocytosis, transfusions of fresh blood are more

The items in these letters are contributed by regular correspondents in the various foreign countries.

effective than those with preserved blood. After intramuscular injections of 10 cc. of cerebrospinal fluid obtained from healthy persons, pronounced leukocytosis may be produced in healthy persons and also in patients with granulocytopenias. This effect is mainly due to influencing the cell units by which leukocytes are broken up, thus prolonging the duration of life of the granulocytes in the circulation. In aplastic anemia and granulocytopenia the effect of blood transfusions can be greatly increased by also injecting spinal fluid, so that less blood is required and a prolongation of the effects may be achieved.

Surgical Closure of a Rectourethral Fistula.—At the meeting of the Austrian Society of Urology in January Dr. Uebelhör reported on the case of a man, 68 years of age, in whom a rectourethral fistula had developed after a prostatectomy. An abscess that was located on the dorsal side of the abdomen had been opened during the prostatectomy. A colostomy was made shortly after the prostatectomy, and only then did the extremely poor condition of the patient improve. Six months later the patient returned to the hospital for closure of the fistula. At this time a calculus the size of a plum stone was found in the posterior urethra, which intermittently closed the fistula. The surgical approach was through the perineum. The urethra was separated from the rectum, and the calculus was removed following dilation of the urethral fistula. Both fistular openings were sutured after the interposition of the levator. Several months later the colostomy was closed, and the patient has remained well.

BRAZIL

Intestinal Giardiasis.—The pathogenic significance of Giardia lamblia is still a matter of controversy. Although eminent gastroenterologists and parasitologists believe this parasite to be pathogenic in only a few children and adults, a growing number of pediatricians regard Giardia as a frequently pathogenic protozoan in children. Profiting by a relatively high incidence of giardiasis (11% in children under 15 years of age) in Porto Alegre, Dr. Estelle Budiansky reported in *O Hospital* (**45**:555, 1954) on a series of 117 children under 14 years of age whose stools showed Giardia (in almost all of these in the form of cysts). Asymptomatic carriers in childhood seem to be rare (only two in this series). The most common symptoms found in these children were repeated diarrhea, recurrent abdominal pains, loss of appetite, nausea, vomiting, and malnutrition. The celiac syndrome and such nervous symptoms as irritability, headache, dizziness, and disturbed sleep may be associated with giardiasis. The partial or total relief of the symptoms after treatment with an acridine derivative (Metoquin), coinciding with the disappearance of the parasites from the feces in 90% of the patients, suggests a causal relationship, although several other factors might have caused the symptoms and Giardia may have had only an aggravating effect. The author concludes that, whenever a child presents one or more of the symptoms mentioned and the stools are repeatedly positive for Giardia, the child should be treated with Metoquin, even in the presence of other causative factors. Whenever a child presents one or more of the symptoms mentioned and the stools are repeatedly negative, duodenal catheterization should be performed, and if this does not clarify the diagnosis treatment for giardiasis should be given.

Peridural Anesthesia.—Dr. Nelson Sá Earp, of the Santa Theresa Hospital of Petropolis, Rio de Janeiro, at a meeting of São Paulo surgeons, reported a series of 1,700 patients in whom peridural anesthesia was used. Among the advantages of this method are its safety; there were no deaths in this series. Death as a consequence of peridural anesthesia is only caused by technical errors, such as injecting the anesthetic solution into the intradural space. The absence of deaths, however, does not mean absence of minor accidents. Lipothymia occurred in about 7% of these patients. When it occurs, it comes at the end of the injection, causing a relaxation of the muscles and the drooping of the patient, as about 99% of the injections are made with the patient in the sitting position. If he is not laid down on the bed immediately a convulsive crisis develops. The reaction is believed to be due to cerebral ischemia, owing to the sitting position and emotional instability. For this reason Dr. Earp uses preanesthetic psychic preparation and thereby markedly reduces the rate of occurrence of this reaction. Patients in shock or with massive hemorrhage have been subjected to peridural anesthesia without any harmful effect; on the contrary, with the cessation of the pain the shock may be decreased. Another possible accident is the apnea caused by paralysis of the intercostal muscles, which occurred in two of the author's patients. In one of them artificial respiration had to be maintained for about 30 minutes. During this time the heart worked normally, and the patient recovered completely. The second patient was a cachectic older man in whom a gastroenterostomy had to be done. Artificial respiration was all he needed to recover completely, permitting the completion of the operation.

Death During Anesthesia.—Dr. F. F. Brusarosco in *Anais paulistas de medicina e cirurgia* (**68**:459, 1954) reported a series of 16 patients who died during anesthesia among 235 persons subjected to 242 thoracic operations. Only one of them was unconscious before the beginning of the anesthesia. The series included 48 operations on the heart and great vessels, 41 exploratory thoracotomies, 41 pneumectomies, 38 esophagogastric resections, 32 lobectomies and segmentectomies, 8 pulmonary decortications, 8 exereses of mediastinal tumors, 6 closures of bronchocutaneous fistulas, and 20 other operations such as vagotomies, sympathectomies, and extraction of foreign bodies. In the age group from birth to 19 years there were 51 patients with 6 deaths; in the group from 20 to 49 years, 135 patients with 8 deaths; and in the group over 50 years old, 49 patients with 2 deaths. Thus half of the deaths occurred in the group of better-risk patients, possibly because in the group over 50 years old many of the operations were limited to a simple exploratory thoracotomy, owing to the fact that the disease had reached an inoperable stage. The type of anesthesia used was as follows: cyclopropane-ether-curare 85 with 6 deaths, cyclopropane-ether 63 with 4 deaths, cyclopropane-nitrous oxide-curare 2 with 2 deaths, nitrous oxide-ether-curare 20 with 1 death, nitrous oxide-pentothal-curare 10 with no deaths, nitrous oxide-meperidine-curare 4 with no deaths, and nitrous oxide-intravenous procaine-meperidine-curare 58 with 3 deaths. The author believes that the type of anesthesia or the agent used was not the cause of the death but rather its injudicious use in the hands of insufficiently experienced anesthetists. Among 84 patients with uncontrolled or partially controlled respiration 9 deaths occurred; among 82 patients with the respiration controlled only during the intrapleural part of the operation 4 deaths occurred, and among 76 patients with controlled respiration throughout the operation 3 deaths occurred. Maneuvers that proved to be particularly dangerous included (1) placing the patient in the supine position, this procedure having caused a severe shock in 19 patients, with 2 deaths; (2) the changing of the endotracheal catheter during tracheotomy, which was tried in 2 patients, both of whom died; and (3) operative exploration of the mediastinum, which, performed in 9 patients, caused the death of 2 from intractable cardiac standstill.

ENGLAND

Annual Report of Council of the British Medical Association.—The annual report of the Council of the British Medical Association in the *British Medical Journal* (Supp., March 19, 1955) reports that, after the Minister of Health's statement that physicians would be asked not to prescribe certain proprietary preparations in cases where it had not been possible to reach satisfactory price arrangements with the manufacturers, the Council obtained an assurance from the Ministry that the Minister's announcement in no way departed from the agreed policy that a general practitioner is quite free to prescribe whatever he decides to be necessary in the best interests of his patient. The Council believes that it is unfortunate that the Minister opened his campaign by referring to a group of well-known proprietary antiasthmatics that, though more costly, were often more efficacious and better tolerated than the supposedly equivalent standard preparation.

Attention was drawn to the fact that, although now there is at least one general practitioner on every regional hospital board, the position with regard to teaching hospitals is far from satis-

factory. For instance, in London on only 6 of the 12 boards of governors of teaching hospitals is a general practitioner included among the members. Steps are to be taken to remedy this state of affairs. Satisfaction was expressed at the financial success of *Family Doctor*, the popular health journal of the association. For the second year in succession it has been run at no cost to the association. *Family Doctor* has become the most widely quoted magazine in Great Britain.

In view of the large number of serious and fatal accidents in which motorcyclists receive head injuries, the Council has been trying to persuade the Commissioners of Customs and Excise to withdraw the purchase tax payable on crash helmets. It is estimated that only about 20% of civilian motorcyclists wear crash helmets. The membership of the association in the United Kingdom represents 71% of the total profession and 80% of the working profession. The Anglo-American and Anglo-Canadian Exchange Scheme, which enables a small number of physicians to visit the United States and Canada in exchange for visits to this country by American and Canadian physicians, has been continued. Five British physicians have visited the United States and Canada during the year.

The Council of the World Medical Association has reported to member-associations that the association is in serious financial difficulties, and it has proposed a substantial increase in the rate of subscription. The difficulties are mainly caused by the widening scope and increasing cost of its activities and by the fact that many national associations do not pay their full membership subscription. The British Medical Association Council has carefully considered how it can best help the World Medical Association. It is convinced that this organization serves a necessary purpose in presenting the views of the medical profession to international governmental bodies such as the World Health Organization and the International Labour Office, and, moreover, as the British Medical Association was largely responsible for the creation of the World Medical Association, the Council believes that it must do all in its power to ensure the World Medical Association's continuance. The Council has accordingly made an unconditional gift of £1,000 to the World Medical Association to help it over its immediate difficulties. It has also studied the World Medical Association's financial statements with a view to offering constructive advice. It has suggested to the World Medical Association Council that the crisis is serious enough to justify an immediate and thorough examination of its finances, organization, and activities and that, after effecting such economies as are practicable, its council should work out a program of activity within the revenue that it can reasonably expect to receive. It has recommended that the proposed increased rate of subscription should be reconsidered, partly because, if certain member-associations do not pay their full subscriptions even at the present rate, it is unlikely that they will pay any substantially higher rate.

Mass Radiography.—In Birmingham an x-ray service for general practitioners was inaugurated in 1949. A mass radiography center was established in an old building in the center of the city. Although no advertisement of the facilities appears in the press and there are no evening or Saturday morning sessions, during the five years about 11,000 persons voluntarily requested a roentgenogram of the chest. Dr. L. A. McDowell has published an analysis of the 3,371 persons (1,460 men and 1,911 women) who came to the center of their own accord during the 12 months, March, 1953, to February, 1954 (*Tubercle* **36:**122, 1955). Although there were 14 persons under the age of 15 and 94 aged 60 or over, 68.5% were in the age group 15 to 34. In spite of the fact that in Birmingham chest x-ray facilities are readily available to physicians, 20% of those attending of their own accord were under the care of a general practitioner at the time. Just over 50% wanted the roentgenogram made as a routine check. Most of these were not under the care of a physician. A somewhat smaller number wanted a roentgenogram made because of symptoms; more than half of these were not under the care of a physician. The rest wanted a roentgenogram made because of contact with tuberculosis; most of these were not under the care of a physician.

Of the 3,371 persons examined, 63 had radiological evidence of pulmonary tuberculosis; 18 had healed calcified lesions; 9 had healed fibrotic lesions; and 36 were referred for further investigation. Of these 36 persons, 22 had active tuberculosis. This gives an incidence of active tuberculosis of 6.5 per thousand for the group, compared with the national finding for mass radiography examinees of 3 per thousand. Of these 22 active cases, only 2 patients were without symptoms, and 10 were in the age group 15 to 24. What is described as "the startling finding in this group of active cases" is that 16 patients had tubercle bacilli in the sputum. In 11, cavitation was clearly shown in the roentgenogram. The author concludes that patients with pulmonary symptoms should be encouraged to visit their family physicians and that all of them should have a roentgenogram of the chest. For many of them all that is required is a routine roentgenogram, and this can be most economically provided by a modification of the present mass miniature radiography service, whereby general practitioners are given free access to such facilities. The symptomless person who wants a routine check-up should also have the opportunity of having it at a mass radiography center without first consulting his physician. On the other hand, persons with symptoms should consult their physicians before being x-rayed.

More Patients than People.—According to the chairman of the London Executive Council of the National Health Service, before long there may be more people on London physicians' lists than there are inhabitants in the London County Council area. This is attributed to lack of identifying details and change of name. As an example of the difficulties encountered, a physician in the east end of London has a list containing more than 100 people named Singh, four of them with the first name, Piara. In India Piara Singh is as common as John Smith in the United Kingdom.

Effects of Nuclear Explosions.—The Minister of Health said that the total amount of radiation received by each resident in the United Kingdom is about 0.03 r, about one-third of the American figure. Even this amount is artificially high because it is calculated on the assumption that a man stands outside in the open for 24 hours a day for about 50 years, and because it also assumes that none of the activity weathers away from the surface of the ground. The dose of radiation that has been agreed on by an international commission as a maximum permissible level for workers on radioactive isotopes or for radiologists is 0.3 r per week or, taking working hours and holidays into account, about 15 r a year. Where a large population has to be considered, however, the number of genes at risk is greatly increased, and the number of matings that might conceivably carry harmful genes is also much increased. Estimates of the dose of radiation over a generation that is likely to double the spontaneous mutation rate have varied from 3 to 300 r. About 50 r in 25 years is as good an estimate of the upper limit of allowable exposure as can be made at present. Research in genetic changes is inevitably slow, but it is most unlikely that the increase in radioactivity that has occurred so far will have any appreciable genetic effect. Another government spokesman said that the use of atomic energy for civil purposes cannot possibly raise any danger to the public health. A slightly less reassuring attitude is adopted in an editorial of the *British Medical Journal* (March 26, 1955, p. 775), which concludes that we know far too little on this important subject and that an intense study of it is urgently needed. Although the radiation dose from the nuclear explosions carried out so far is too low to have caused much genetic damage, a continuation of the tests at the present scale over a period of many years might constitute a serious genetic hazard.

Sugar and Dental Caries.—Evidence that increased consumption of sugar has no significant effect on the development of dental caries in children is to be found in a report recently published under the aegis of the Medical Research Council (King, J. D.; Mellanby, M.; Stones, H. H., and Green, H. N.: The Effect of Sugar Supplements on Dental Caries in Children, Medical Research Council Special Report, no. 288). The report is based on a carefully controlled investigation of over 700 children, aged 2 to 14 years, in institutions in London, Liverpool, and Sheffield. The children were first observed for one year on their regular diet, in order to ascertain the natural caries increase. They were then divided into control and test groups; the latter were given an additional supplement of refined or raw sugar for periods of one to two years; and the incidence of caries was

assessed in both groups at the end of this time. It was found that the children in Liverpool and Sheffield, whose ages ranged from 3 to 14 years, were receiving 466.5 to 730.9 gm. (15 to 23.5 oz.) of sugar a week in their regular diet. During the period of observation those in the test groups received a supplement of 684.3 gm. (22 oz.) of refined sugar per week. As the children in the London groups were aged only 2 to 4 years, and as their normal sugar intake ranged from 388.8 to 715.4 gm. (12.5 to 23 oz.) a week, it was decided that they would not be able to cope with a further 684.3 gm. a week. It was therefore decided that those in the control groups should receive about 342.1 gm. (11 oz.) a week, and those in the test groups were given 684.3 gm. of either white or brown sugar a week.

The results demonstrate that relatively great differences in the total sugar content of the diets of children in institutions had no significant effect on the initiation and spread of dental caries in periods of one to two years. As regards the deciduous teeth, there was, as a whole, no evidence that sugar as administered in this investigation resulted in any increase in caries. In the case of the permanent first molars, although the groups fed additional sugar tended to show a slightly greater increase in, and spread of, caries than the control groups, the total figures for these teeth did not disclose any consistently significant differences. A comparison of the London children receiving supplements of sugar showed a caries experience in those receiving brown sugar similar to that of those receiving white sugar and the controls.

Aging and Mental and Physical Capacity.—Prof. William Hobson in the May issue of the *Practitioner* states that in a random sample of old people living at home, 43% had a resting diastolic blood pressure of 100 mm. Hg or over and most of these were in good health. There is some evidence that the increasing deafness, especially for higher tones, that commonly increases with age may be due to acoustic trauma in industry. Although deafness is more common in elderly men, vertigo is more common in women, probably associated with arteriosclerosis of the labyrinth. The power of accommodation falls steadily with age until the age of 50, after which it remains stationary. The range of normality of serum alkaline phosphatase, serum cholesterol, and blood urea are all much higher than in younger age groups. In a series of 98 elderly men the range of serum cholesterol was 176 to 409 mg. per 100 ml. (mean 268); the corresponding figures for a series of 141 elderly women were 200 to 481 (mean 310). On the other hand, serum calcium, blood sugar, and hemoglobin levels appear to be little changed with age. In a random sample of relatively healthy people over pensionable age living at home (191 men and 282 women), about 29% of the men and 45% of the women suffered from some pathological condition that impaired mobility. Most of this was due to cardiovascular disease (48% of those disabled), joint conditions (13% of those disabled), and chronic bronchitis (13% of those disabled).

The available evidence lends no support to the idea of fixing 65 years of age for retirement from employment. One great need at the moment is for more refined tests that will measure intellectual capacity in the aged. The present tests do not measure many of the higher mental abilities, tend to discriminate against the elderly, and take no account of difficulties due to such physical disabilities as deafness and tremor. He notes that the retiring age for professors at Edinburgh University is 70, and at Oxford and Cambridge it has just been raised to 67. He concludes by suggesting that "perhaps one of the reasons why old ladies live so much longer than old men is that they never retire."

Welfare State.—In an address on the role of the individual in health service delivered before the British Hospitals Contributory Schemes Association, Lord Beveridge, author of the scheme on which the National Health Service is based, drew a sharp distinction between the "welfare state" and the "welfare society." He does not like the former term because "it gives to some people the idea that all that they need for welfare should be provided by the State and that all they have to do is to use their votes to get it from the State." He prefers the term "welfare society" because, although some things must be done by the state, much more has to be done by private citizens for themselves and in helping their neighbors. He gave some striking figures for the progress that the British Hospitals Contributory Schemes Association has made. The essence of these schemes is that people contribute in order to obtain certain benefits for themselves and their families over and above those available through the National Health Service. There are now 39 contributory schemes, with more than 3,500,000 members paying contributions ranging from 1 to 7 cents a week and producing a total annual income of 6,300,000 dollars. The contributors with their dependents number about 10 million people, or about 20% of all the people in Britain. This is an outstanding example of voluntary action refusing to be eradicated by a welfare state.

Accidental Poisoning.—According to the Registrar General's Statistical Review of England and Wales for 1951, in the period from 1931 to 1939, 130 children under 15 years of age died as a result of accidental poisoning. The comparable figure for the next decade was 277. In each period 79% of all the deaths occurred among children between 1 and 5 years. Deaths from aspirin poisoning in the two periods were 3 and 13, respectively, from ferrous sulphate and Fersolate 2 and 17, and from methyl salicylate 7 and 24. If all poisons and medicaments had been kept out of reach of these children, these deaths could have been prevented. In 1951, 820 people died from accidental poisoning; 264 from poisoning by solid and liquid substances; and 556 from poisoning by gas and other vapors. These figures are higher than in any of the preceding 10 years. Barbiturates were responsible for 117 of these deaths, compared with 33 in 1942; aspirin and salicylates were responsible for 27, compared with 10 in 1942, and other analgesics and soporifics for 21 (the same number as in 1942). Accidental poisoning occurred more commonly in the home than anywhere else: 50% involving barbiturates, 68% aspirin, and 82% other drugs.

Accidents in the Home.—An analysis of home accidents in England and Wales by C. A. Boucher (*Month. Bull. Min. Health* **14:** 49, 1955) shows that during the last 10 years 57,413 people have died as a direct result of an accident in the home, including about 10,000 children under 5 years of age. An analysis of the 1953 figures shows that 12% occurred in the age group from birth to 4 years, 2% from 5 to 14 years, 6% from 15 to 44 years, 11% from 45 to 64 years, and 69% 65 years and over. In other words, four-fifths of the fatal domestic accidents occur in children under 5 years of age and in people aged 65 and older. In children between the ages of 1 and 4 years, a fatal home accident is the third largest cause of death; the peak period of risk is during the third year of life. The most frequent types of fatal home accidents are: falls (60%), burns and scalds (10%), coal gas poisoning (10%), suffocation (9%), and poisoning (9%). An examination of the trend of these fatalities over recent years shows an increasing number of fatalities in older persons, an increasing number of deaths from falls, coal gas poisoning, and other poisoning, and a decrease in the number of deaths from suffocation and scalds.

Salmonella in Liquid Egg.—The Public Health Laboratory Service has published a report of an investigation to assess the importance of liquid egg as a possible vehicle of infection (*Month. Bull. Min. Health* **14:**65, 1955). Salmonella typhimurium and S. thompson are responsible for many cases of food poisoning. Of 1,649 samples of untreated or chilled liquid hen egg tested, 5 contained S. typhimurium, 3 contained S. pullorum, and 1 contained S. meleagridis. Of 65 samples of untreated or chilled liquid hen and duck egg mixture tested, 4 contained S. typhimurium. S. typhimurium was also isolated from 7 of 345 samples of frozen hen egg, from 1 of 59 samples of frozen duck egg, and from 17 of 55 samples of frozen hen and duck egg mixture. Of 106 samples of untreated or chilled imported hen eggs tested, one sample of an Irish mixture contained S. pullorum. One hundred fifteen samples of frozen imported hen eggs were tested. Of 80 Australian samples, 2 contained S. typhimurium and 15 S. pullorum. Of 25 Chinese samples, one contained S. thompson; and of one Danish, one Dutch, and eight Irish samples, none contained Salmonella organisms.

Sale of Sex Hormones.—Some time ago, in view of reports of the misuse of sex hormones for the suppression of lactation and the treatment of menopausal conditions, the British Medical

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Association approached the Council of the Pharmaceutical Society to discuss whether any control should be imposed on their distribution and an inquiry was made as to the practice of dispensing such products without a prescription. As a result the council will advise pharmacists not to supply sex hormones or their preparations unless satisfied that the customer is obtaining them on medical advice, though not necessarily presenting a prescription. This does not apply to cosmetic preparations containing hormones which are being considered separately. The pharmaceutical journal, *Chemist and Druggist* (April 16, 1955, p. 433), says that the issue of such statements is attended by more evils than it is intended to reduce and should not be resorted to even for so laudable a purpose as to please the British Medical Association. There is no halfway house between control and noncontrol.

Sir David Bruce.—The centenary of the birth of Sir David Bruce has been commemorated by a special number of the *Journal of the Royal Army Medical Corps* (April, 1955). This contains a bibliography of his 170 publications. Bruce began his study of medicine at the University of Edinburgh at the age of 21 and graduated in 1881. In August, 1883, he received a commission in the Army Medical Service, and seven months later he was assigned to Malta, where he carried out his pioneer investigations on undulant fever. His first two papers announcing the discovery of what we now know as Brucella melitensis were published in the *Practitioner* (**39:**161, 1887; **40:**241, 1888). In 1894 he was assigned to South Africa, where he began investigations that lead to the discovery of the trypanosome responsible for trypanosomiasis in man and animal and its mode of transmission by the tsetse fly. During World War I he completed his major contributions to medical knowledge by his work on trench fever and tetanus. He was the first Army medical officer to be elected a fellow of the Royal Society of London.

Price of Pharmaceuticals.—The Ministry of Health has just completed an investigation into the earnings of secondary manufacturers, compounders, and wholesale distributors of drugs. The investigation was based on a sample of 19 companies with an annual turnover of about 67,200,000 dollars, and the accounts for three successive financial years were examined. In a letter to the Association of British Pharmaceutical Industry, the Ministry states that the results of the cost investigation do not suggest that the general level of prices that manufacturers receive for unbranded standard drugs and preparations is excessive and that there is no occasion for health departments to seek to influence the level of prices received by manufacturers for unbranded standard drugs and preparations or the earnings that are being obtained in wholesale distribution.

Loneliness and Mental Health.—In Edinburgh, admission to mental hospitals are higher among people from the Highlands or from foreign countries than among the Edinburgh-born, according to Prof. F. A. E. Crew in an address to a conference on preventive aspects of mental health work. This is in line with evidence from the United States, Norway, and London that admission rates to mental hospitals are appreciably higher among immigrants than natives and among the unmarried, the widowed, and the divorced than the married. He concluded that the common factor is loneliness or cultural isolation. If mental health is to be preserved, a person should be attached to something that gives a satisfying purpose to his activities and yields security.

Industrial Museum Renamed.—The Industrial Museum of the Ministry of Labour has been renamed the Industrial Health and Safety Centre. The Centre, the only one of its kind in Great Britain, is a permanent exhibition of methods, arrangements, and appliances for promoting safety, health, and welfare in industry. It is open daily, free of charge, and guides are always on duty to conduct parties of visitors and to answer questions. In 1953 there were over 12,000 visitors. The name was changed because of the increasing emphasis that is now laid on industrial health. The Centre, which has a unique and up-to-date collection of exhibits, many lent by manufacturers, deals with industrial diseases, first aid, safety devices, lighting, ventilation, sanitation, and decorating of factory premises.

Neglect of Smallpox Vaccination.—The Minister of Health has expressed concern at the current neglect of vaccination except as an emergency measure during outbreaks of smallpox. The present position is that in England and Wales, in 1954, only 34.5% of the infants under the age of one year were vaccinated. This is far below what may be regarded as satisfactory. It is urged that every healthy infant be vaccinated. The revaccination of children within two or three years of first entering school not only maintains or revives their individual protection but also facilitates the control of local outbreaks of smallpox. It also insures that any further vaccination in later life will be less likely to have any serious reactions or complications.

Army Pathology Service.—The centenary of the Army Pathology Service is being celebrated by a special dinner at the Headquarter Mess of the Royal Army Medical Corps at Millbank, London. After the Crimean War Florence Nightingale urged the formation of an Army medical school, but it was not until 1860 that this was finally opened. Among the notable names associated with the school were those of Wright, Bruce, Leishman, and Cummins. Fundamental work on the cause and prevention of Malta fever, the isolation of the causative organism of kala-azar, and the work in Uganda on African sleeping sickness, culminating in the discovery of the causative organism, was done by members of the staff.

Poliomyelitis in an Isolated Community.—The simultaneous isolation of two immunologically distinct types of poliomyelitis virus from a single sample of feces obtained from a healthy one-year-old child is reported by Macrae and Shepherd (*Month. Bull. Min. Health* **14:**55, 1955). In all, 73 samples of feces from residents of a relatively isolated community in Scotland were investigated, and this was the only successful isolation of poliomyelitis virus. The viruses were fully virulent when inoculated intracerebrally into monkeys. Poliomyelitis had not been diagnosed clinically within living memory in the community in which the child lived.

Radioactive Sterilization of Food.—During investigations (Food Investigation Special Report no. 61) in which foods were irradiated with 2 mev., it was found that, when the food was subjected to a dosage sufficient for efficient sterilization, changes in flavor, color, or texture nearly always occurred. Although these effects could be minimized with the use of special techniques such as deaeration or freezing of the food before irradiation, they could not be completely eradicated. The results of these experiments make it seem doubtful that sterilization of food by these means will prove commercially satisfactory.

Physician as Postmaster-General.—Among the changes in the Cabinet announced by Sir Anthony Eden on his appointment as Prime Minister was that of Dr. Charles Hill as Postmaster-General. Until his election as a Member of Parliament, Dr. Hill was Secretary of the British Medical Association.

FRANCE

Smallpox.—The epidemic that raged over France from the end of 1954 to the beginning of 1955 originated chiefly in Vannes, the capital of Morbihan. It was started by a soldier on leave from Saigon who was vaccinated a month before coming back to France and did not present any sign of the disease. A prefectorial decree made it compulsory to send smallpox patients to a hospital for isolation. Such severe forms as confluent smallpox, hemorrhagic smallpox, and variolar nephritis were observed in this epidemic. Abortive forms were common in those who had been vaccinated shortly before acquiring the disease or during the incubation period. Fifteen of the 70 patients in this epidemic died. Most of these were sick or infirm before they acquired smallpox. Compulsory vaccination proved to be the most effective measure used to stop the epidemic. Immunization of the staff in the hospital and the physicians proved insufficient as five hospital workmen, two interns, and seven physicians contracted the disease. One physician who was revaccinated in 1942 and again on Jan. 3, 1955, died 48 hours after his first contact with a smallpox patient. A revaccination of the staff in the hospital and of all physicians every three years is recommended.

Electrophoretic Variations in Serum.—G. Lagrue in the *Vie Medicale* for Dec. 12, 1954, shows that early in some acute infections such as pneumonia there is an increase in the alpha globulin; in some subacute infections such as tuberculosis and typhoid the gamma globulin increases. In the course of tuberculosis and acute articular rheumatism an increase in alpha globulin occurs. In a patient with pulmonary tuberculosis an increase in gamma globulin is associated with a bad prognosis. In lipid nephrosis there is a decrease in serum albumin and gamma globulin and an increase in alpha globulin. All nephropathies with marked albuminuria are associated with an increase in alpha globulin. In cirrhosis of the liver there is a decrease in alpha globulin but a marked increase in beta and gamma globulin. Arterial atheroma is associated with a moderate increase in beta globulin.

Regeneration of Tissue in Man.—Prof. R. Leriche in the *Bulletin of the International Society of Surgery* for January, 1955, stated that scar tissue can impede tissue regeneration. For example, in the case of nervous tissues the myelinic or amyelinic nerve fibers pervade the scar and this anarchic proliferation gives way to a neuroma. Although regenerative potential is present, it is vitiated. In bone, osteogenic cells may remake an epiphysis or a diaphysis, but the regeneration is functional and not anatomic. It is impossible to remake a joint but we can ossify the ligamentous insertions. The author concludes that tissues make a great effort toward regeneration but that it is often frustrated.

Death of Professor Gougerot.—Prof. H. Gougerot, the famous dermatologist, died at the age of 64. He contributed studies of sporotrichosis, cutaneous tuberculosis, leprosy, and the role of allergy in eczema.

INDIA

Tuberculous Ulcer of the Stomach.—M. S. Kanvinde in the *Indian Practitioner* (**8**:309 [March 3] 1955) stated that tuberculous ulcers of the stomach are rarely found in spite of the high incidence of pulmonary tuberculosis. A 20-year-old man came to the hospital complaining of pain in the epigastrium of one year's duration. The pain had become progressively worse and usually followed the ingestion of food. It was relieved by vomiting. There was no history of hematemesis or melena. There was tenderness on deep pressure in the right side of the epigastrium. Clinically there were no signs of pulmonary tuberculosis. The sedimentation rate was 110 mm. Stools showed the presence of cysts of Endamoeba histolytica. Gastric analysis showed marked hyperchlorhydria with 90 units of free hydrochloric acid and 100 units of total acidity. The tuberculin test with old tuberculin (OT) 1:500 was negative. A gastrointestinal series revealed a hyperplastic stomach. The duodenal cap filled with difficulty. After 8 hours the stomach was half full; after 24 hours it was one-fourth full. A radiological diagnosis of pyloric stenosis was made. A roentgenogram of the chest showed a soft opacity in the infraclavicular region bilaterally.

On operation, the pyloric end of the stomach was seen to be markedly thickened. Regional lymph nodes were enlarged and palpable. Pyloric carcinoma was suspected and a partial gastrectomy was performed removing the thickened portion and the lymph nodes. Recovery after operation was uneventful. The specimen showed two irregular ulcers in the pyloric region on the anterior and posterior walls situated almost opposite each other. The floor of the ulcers was covered with necrotic material. The borders of the ulcer were swollen and irregular. The serosal surface did not show any tubercles. On section the regional lymph nodes showed soft yellow-gray areas of caseation. Histological examination of the ulcer margin showed a thickened mucosa infiltrated with lymphocytes forming several tubercular follicles with epithelioid cells and Langhan's type of giant cells. The ulcer crater was deep and lined by granulomatous tissue consisting of epithelioid cells and giant cells. The base of the ulcer did not show any fibrous tissue. Lymph nodes had the characteristic appearance of tuberculous lymphadenitis. No acid-fast bacilli were seen.

Treatment of Leprosy.—S. Sinha in the *Indian Journal of Medical Sciences* (**9**:124 [March 3] 1955) reported the treatment of 700 persons with leprosy, 25% of whom had the nodular type of the disease (nine of these had a positive lepromin reaction with ocular involvement); 15% had the neural type (five of these had polyneuritis with trophic ulcers); and 60% were of the mixed type. Cutaneous biopsy was positive for Mycobacterium leprae in 60% of the patients and 30% were diagnosed on clinical findings only. The sedimentation rate varied between 15 and 60. The treatment consisted of streptopas, vitamin B, Thiosemicarbarsone, and iron preparations. Erythrocyte counts and hemoblobin estimations were done every eighth week. A diet consisting of plenty of milk, fruits, and proteins was advised. All patients were encouraged to continue their vocation. Measures were taken to prevent spread in the family. Other members of the family, especially children, were given BCG vaccination. Resolution in nodular lesions was found to commence after the 10th injection of streptopas, and the improvement continued in varying degree in most patients. Some required a second course of streptopas after a rest of one month. The improvement in patients with the neural type was very satisfactory but in those with the mixed type the clinical response was variable. Perforating ulcers were the quickest to respond to this treatment. Keratitis and iridocyclitis showed a better response to this therapy than to that with other drugs. Bleeding from the nose and ulcers in the nose responded quickly and completely. If cutaneous and nasal smears could be done, reduction in the bacilli in the cutaneous smears from 200 to 300 organisms per field to 2 to 10 per field was observed within 130 days. Nasal smears were found to be negative after the third injection. Toxic reactions were not common. More recently it has been found that streptotibine gives better results.

Serpasil and Coagulation of Blood.—M. G. Khirwadkar in the *Indian Journal of Medical Sciences* (**9**:160 [April 4] 1955) stated that about 14 alkaloids have been isolated from the root of Rauwolfia serpentina. The empirical formula of reserpine, one of these, differs markedly from that of the rest. In common with the whole root it produces hypotension, bradycardia, and sedation. A 32-year-old man was admitted to a hospital for malignant hypertension. He was given two tablets of reserpine and 30 mg. of phenobarbital three times daily. After about three weeks, venesection was performed to relieve dyspnea. The next morning it was noticed that the blood removed from the patient's vein the evening before had not clotted. In order to find out whether the delay in clotting was due to the action of the drugs the patient was receiving, 5 cc. of blood was removed from 12 other patients in the ward who were not receiving the same drugs. To four of these samples reserpine (Serpasil) was added; to another four, phenobarbital alone was added; and to the remaining four, both were added. The second group showed clotting but the first and third did not. In another patient who was being treated with reserpine the prothrombin and clotting times were found to be prolonged but the bleeding time and platelet count were normal.

Hemangioma of the Orbit.—Gantayat and Bhaskarrao in the *J. Indian M. A.* (**24**:596 [May 1] 1955) reported the case of a 25-year-old woman who was admitted for a painless prominence of the left eye of four years duration. The swelling was gradually increasing. A proptosis of her left eyeball of 1.5 cm. was observed. Movements of this eyeball were limited in all directions. Her preauricular lymph nodes were enlarged on both sides. The vision in her right eye was 6/10 and in her left eye was almost absent. Her optic disk appeared pale and the margins were blurred; the arteries and veins were tortuous. A biopsy was performed and the sections revealed fibroangiomatous tissue. There was no evidence of malignancy. Evisceration of the left orbit was performed. Examination of the mass removed showed a soft conical tumor arising from the retro-orbital tissues. On section a number of cavernous spaces filled with blood were observed. On microscopic examination, large cavernous blood spaces lined by endothelium and bound together by trabecular connective tissue were seen. There was no evidence of malignancy.

Ascorbic Acid Removal from Adrenal Glands.—Mukherji and Werner in the *Bulletin of Calcutta School of Tropical Medicine* (**3**:19 [Jan. 1] 1955) reported that ascorbic acid is removed from the adrenal gland by the action of corticotropin or some specific factor called adrenal ascorbic factor and such depletion occurs

in response to stress, epinephrine, atropine, physostigmine, and adrenergic blocking drugs. Rauwolscine, which is the alkaloid of Rauwolfia canescens, is a strong adrenergic blocking drug and experiments were performed to find out whether ascorbic acid was removed from the adrenal glands of rats after administration of Rauwolscine. The left adrenal gland was removed for control estimation. Rauwolscine was injected intraperitoneally and the right adrenal gland was removed immediately after killing the rat one hour after injection. Control animals were treated similarly using isotonic saline solution instead of Rauwolscine. It was found that a significant removal of ascorbic acid from the adrenal gland occurred after the administration of Rauwolscine.

ISRAEL

Health in Israel.—In 1954 the number of physicians in Israel was 3,828 compared to 3,717 in 1953. The ratio of physicians to population is now 1:440, which is one of the highest in the world. In Great Britain it is 1:960; in France 1:1,200; in Austria and Switzerland 1:700; and in Norway 1:950. Eighty per cent of Israel's physicians work in towns, about 2,400 in the three main cities alone (Jerusalem, Haifa, and Tel Aviv), so that about 65% of the physicians are serving 45% of the population. More than 30% of the physicians immigrated to Israel after the establishment of the state in 1948, but more than 90% of the total number of Israeli physicians had practiced medicine in their countries of origin before immigration. The 50 members of the faculty of Hadassah Medical School are graduates of about 50 universities from 16 different European countries, the Americas, Asia, and Africa. Every group of immigrant physicians brought along the knowledge and habits of the countries of their origin or the universities where they were trained. The Jewish population, numbering 650,000 in May, 1948, has absorbed 750,000 new immigrants (35% from Asia, 15% from North Africa, and 49% from Europe). This uncontrolled immigration has few precedents in modern history. Of the community of Yemenite Jews numbering 47,000, who were transferred to Israel by air in the course of one year, 16,000 were in need of hospitalization on arrival. A moderate estimate shows that about 20,000 patients with schistosomiasis have been imported into Israel with immigrants from Yemen and Iraq. Sixty per cent of the immigrants from North Africa are afflicted with trachoma. The large number of tuberculous patients among the new arrivals compelled the state to increase the number of tuberculosis hospital beds from 590 in 1949 to 1,986 by the end of 1952. The transfer of whole communities from Asia and North Africa caused the infant mortality rate to rise from 29:1,000 in 1947 to 51:1,000 in 1949, but, as a result of intensified activities in this field, the rate dropped to 34.5:1,000 in 1954. The ratio between the occurrence of infant toxicosis among new immigrants and established residents was 17:1. The mental and social adjustment of these heterogeneous groups (a gap of eight centuries separates the immigrant from Western Europe from his contemporary from the Yemen) constitutes an enormous medicosocial task. Fifty per cent of the physicians are over 50 years old; 600 have already reached the age of 65 or more and must be replaced in the next few years. Taking into account that the average number of graduates of the medical school is about 60 each year, it will take 10 years just to provide the replacements needed. Moreover, there is a shortage of specialists, especially in radiology, anesthesiology, orthopedics, general surgery, ophthalmology, and psychiatry. The lack of well-trained specialists in public health and preventive medicine will certainly make itself felt in the coming years when the reorganization and expansion of the existing health services are undertaken.

New Outbreak of Schistosomiasis.—While during 1953 and 1954 isolated cases of schistosomiasis could be observed in new immigrants, now for the first time infestation with Schistosoma hæmatobium has been discovered in a group of settlers in the Jordan Valley. G. Wittenberg and Z. Saliternik reported (*Harefuah*, vol. 48, May 15, 1955) that Bulinus, the snail vector of S. hæmotobium, is widespread. In addition to the natural foci, it has appeared in ponds and drainage canals constructed within the past two years. In view of radical changes in distribution of artificial water courses occurring lately, its appearance and disappearance is unpredictable. On the other hand, the distribution of Planorbis, the snail vector of Schistosoma mansoni, is limited to a small section of the Yarkon River. This unequal distribution of snail species is inverse to the frequency of human carriers of corresponding Schistosoma parasites; the numerous carriers of S. mansoni (mainly immigrants from Yemen) are in contrast to the rare carriers of S. hæmatobium. This is the main reason why new cases of schistosomiasis are rare. However, in view of the ubiquity of snail carriers of either species, outbreaks of schistosomiasis are to be expected and precautions are advised. Recent discovery of urinary schistosomiasis at Tirat-Zvi, a village in the Jordan Valley, indicates that an epidemic development of that disease may occur, if every possible precaution is not taken to stop its course immediately. At present nearly 50% of the youth of this village are infected.

MEXICO

Pleuropneumonia and Urethritis.—The fact that the micro-organisms of the pleuropneumonia group produce diverse pathological pictures in animals has been known for some time. Because they have been found in the human genitourinary tract, it has been suggested that they may have some relation to Reiter's disease. Olarte has recently (*Revista de investigación clínica*, vol. 7, April-June, 1955) isolated seven species of the pleuropneumonia group from seven men with chronic urethritis in whom the presence of Neisseria gonorrhoeae was eliminated by the use of ordinary bacteriological methods. Urine and urethral secretions were taken from 12 patients. The urinary sediment and urethral secretion were mixed with a drop of diazine solution (2 mg. per milliliter). This preparation was cultured on a solid infusion medium of fresh heart muscle with peptone at a pH of 7.8. To this was added 30% sterile horse serum. In order to avoid desiccation, the Petri dishes were sealed with clay. They were incubated at 30 C and were observed at 48-hour intervals with a stereoscopic microscope. Minute colonies or small masses were observed. The incubation was continued for 20 days before discarding the negative cultures.

From seven of the patients, organisms with the characteristics of the pleuropneumonia group were isolated. It was possible to make serial cultures from the positive cultures. It was also possible to promote their growth in a liquid medium without the appearance of bacterial forms. This last requisite is important because it has been found that the L forms of bacterial origin, which are similar to the micro-organisms of the pleuropneumonia group, can be differentiated because they fail to grow in liquid mediums and, if they do, they convert to the bacterial form from which they spring.

One of the species was inoculated into the chorioallantoid membrane of the chick embryo, and it was possible to recover this same species from the embryo. In preparations stained with Giemsa's stain, numerous inclusion bodies were observed. The author states that he is not trying to establish a relationship between the findings of a positive pleuropneumonia group organism with the urethritis that the seven patients had but that he is simply demonstrating the existence of these micro-organisms in Mexico. The pathogenicity of these micro-organisms in man is still to be established.

Control of Yellow Fever.—Although no cases of jungle yellow fever have been observed in Mexico, if the necessary precautions are not taken it is believed that within a year and a half there will be cases of this disease in the states and territories bordering Guatemala, because a northward spread of the disease has been in progress ever since the epidemic outbreak in Panama in 1948. For this reason the federal government has taken the following measures: (1) vaccination of all inhabitants of Campeche and Yucatán first and then those of Chiapas, Tabasco, and Quintana Roo; (2) intensification of the campaign against the mosquito; and (3) instruction to the public on the preventive measures that can be taken individually.

CORRESPONDENCE

SURGICAL ANESTHESIA AGAIN

To the Editor:—In the April, 1954, issue of *Surgery*, I had an editorial on surgical anesthesia. In the Dec. 25, 1954, issue of THE JOURNAL, page 1628, a letter of mine entitled "Surgeon and Anesthetist—Good and Bad Teamwork" was published. In both of these contributions I pointed out that suture lines are occasionally broken by patients struggling under anesthesia. This is not a theoretical consideration, as I have seen it occur before the wound was closed. How often suture lines break after the wound is closed, when the patient struggles under anesthesia, no one knows. My entire purpose was to point out an occurrence that, while probably not frequent, is a lamentable incident for the patient when it does occur, and to indicate that such incidents could be cut to the minimum, or probably entirely eliminated, by a closer cooperation between the anesthetist and the surgeon. Certainly the welfare of the patient is in jeopardy if there is not close cooperation between these two specialists who must work so closely in unison. The best anesthesiologists with whom I am acquainted and with whom I have corresponded agree with the thesis I put forward. Indeed, the professor of anesthesiology in one of the leading medical schools on this continent wrote: "I agree with you entirely that the conditions about which you complain are bad for the patient and inexcusable on the part of the anesthesiologist. I believe that this is an example of how badly we fulfill our duties as physicians when we become addicted to routine practice rather than individual appraisal of a therapeutic procedure. . . . I intend to bring your very stimulating letter to the attention of my students."

Although my object was to stimulate closer cooperation between the surgeon and the anesthesiologist, several anesthesiologists seem to resent my suggesting that there could possibly be an improvement in their specialty. It goes without saying that there can be improvement in all of our specialties. Every physician should be glad to have any suggestion that furthers the welfare of the patient. One anesthesiologist, Dr. Willis G. Watrous (*Surgery* **36:**831, 1954) made the statement that my editorial in *Surgery* "cannot go unchallenged by the anesthesiologists." This chip-on-the-shoulder attitude does not enhance the working cooperation between the surgeon and the anesthetist, which I was seeking to bring about. The statements I made were factual statements and included episodes encountered in my own experience. They are fortunately not the rule, but the exception. What we are playing for, however, is the 100th case. We cannot attain that goal by antagonistic attitudes, but only by the closest and the most wholehearted cooperation. Dr. Watrous further says that considering the functions of the anesthetist, "it is inconceivable that many patients will be carried lightly to the point of straining with handicap to the work of the surgeon." This is certainly a naïve point of view, as every experienced surgeon knows. It is true that such incidents are decreasing with the improvement in surgical anesthesia, but it is only by recognizing present shortcomings that we can continue our improvement.

Dr. Watrous (*J. A. M. A.* **157:**843 [March 5] 1955) and others (Helmsworth, F. W.: *J. A. M. A.* **157:**945 [March 12] 1955. Greene, B. A., and Berkowitz, S.: ibid. **157:**1433 [April 16] 1955) discuss other causes of postoperative hernias than wound disruption. Every surgeon is well aware of the various causes of these unhappy conditions. I was discussing only one cause, which the anesthetist can aid the surgeon in eliminating.

I wish to reiterate that the procedure of sucking out the trachea is greatly overdone, and this should not be done at all if it is going to cause the patient to struggle. Some anesthetists claim that their reason for doing this is to get the patient to cough. That is much better done after the patient is conscious. There are certain calculated risks that go with surgery. It is much better to run the risk of a little atelectasis than to destroy the work the surgeon has done by causing the patient to struggle violently before he is conscious. After he is conscious, pain will keep him from any movement that will do damage to his wound. It is true that morphine postoperatively depresses the respiration somewhat, but that is another calculated risk that the surgeon has to take. It is much better to give the patient a narcotic and let him sleep his anesthesia off than to let him struggle it off. I agree with Beecher (*J. A. M. A.* **157:**242 [Jan. 15] 1955) that only hypnotics and not narcotics should be given preoperatively. Then if the patient needs a narcotic postoperatively, it will not depress his respiration so much. One ample dose of a narcotic given soon after operation to prevent struggling is often all the patient needs. Once he is awake, all the various methods of improving his respiratory function may be used.

Again let me repeat that nothing I said in either of my previous contributions was meant as an adverse or blanket criticism of anesthesiologists. On the contrary, my experience with anesthesiologists has been such as to lead me, in general, to give them the highest praise. I was only pointing out some unfavorable things that are occasionally encountered and that all of us, both surgeons and anesthesiologists, should strive to correct.

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WASHINGTON'S BASIC SCIENCE LAW

To the Editor:—Our attention has been directed to a paragraph relating to Washington state's new basic science law appearing in the May 28, 1955, issue of THE JOURNAL. This paragraph, which was printed in table 35, on page 303, begins as follows:

> Washington
>
> By recent amendment, effective June 8, 1955, examination may be waived if the applicant has passed an examination before examiners in the basic sciences in those states that have a basic science act, *or before examiners authorized to issue licenses to practice the healing art in another state.* (Italics are ours.)

The following statement is taken from the new law: "(43.74. 035 RCW, 1a) The applicant has passed an examination in the basic sciences before examiners in basic sciences in those states which have a basic science act." This is a basic condition for reciprocal license in the basic sciences, and nowhere in the law is there any statement that would permit the Washington basic science board to accept a medical, osteopathic, chiropractic, drugless, or chiropody certificate as a substitute for the basic science certificate implied in the quotation given above. Ever since the law passed the 1955 legislature, this office has been deluged with requests for applications to obtain basic science registration by reciprocity. Besides answering these letters we have informed the professional societies in the state of the actual situation in regard to the new law, but the facts of the case have evidently not spread as fast as the false rumors. Therefore, we believe it may be of value to present the registrants of other states, who make up the bulk of our inquirers, with a fuller and more accurate account of the new law.

The law took effect at midnight June 8. The board thereupon commenced a thorough study of the laws, regulations, and examinations of the other basic science boards in the country. You will note that the law makes several specifications, in the waiver section, as to the states whose registrants may be accepted by the Washington board. These specifications will require individual consideration and exercise of judgment on the part of the board. As the members of the board are faculty members with full-time teaching schedules, they will be unable to devote all their energies to this task. It is estimated that no final decisions may be made before the January, 1956, examination period.

EDWARD C. DOHM
Professional Division
Department of Licenses
Olympia, Wash.

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GOVERNMENT SERVICES

ARMY

Civilian Medical Care for Army Personnel.—Medical care and treatment is provided for Army personnel in the United States generally by dispensaries, infirmaries, and hospitals located at military installations throughout the country. There are many locations, however, where Army or other U. S. federal medical treatment facilities are not available. In such cases the services of civilian physicians, clinics, and hospitals are necessary. Certain criteria and procedures define the conditions under which individuals of the Army may be authorized civilian medical care at the expense of the Army. Civilian medical care, other than elective, is authorized for commissioned officers, warrant officers, enlisted personnel, cadets of the U. S. Military Academy, and prisoners, when these personnel are on a duty status or when they are absent from their place of duty on other authorized nonduty status. Payment for civilian medical expenses incurred by Army personnel who are absent without leave is not authorized.

Army personnel are authorized civilian medical care only when there are no military or other federal medical treatment facilities available; first aid or emergency treatment is authorized at any time. In this connection, emergency medical care may be defined as that which is required to save life or limb, or that which prevents great suffering. Surgical operations should not be performed without prior approval of the surgeon of the nearest military installation or the appropriate military authority listed below, unless indicated as an emergency procedure. Elective medical treatment by civilian physicians will not be authorized. Medical care of dependents of military personnel from civilian sources at Army expense is not authorized. Dependents of military personnel may obtain available medical care at Department of Defense medical facilities only. Any obligations resulting from civilian medical care to dependents of military personnel are the responsibility of the dependents concerned or their sponsors.

As a general rule military authorities will furnish the civilian medical agency with prior written approval for ordinary medical care to Army personnel under their jurisdiction. In such cases prior arrangements with the civilian medical agency will be made by the individual or by a proper military authority. For emergency cases treated without prior written authorization, the commanding officer of the patient's organization and the surgeon of the Army area in which the treatment is rendered, as listed below, should be immediately notified by the civilian medical agency, giving the individual's name, organization, military address, nature of illness or injury, and statement of the practicability of transfer of the patient to an Army or other governmental hospital. The civilian agency or physician then will be advised without delay by the appropriate military authorities as to procedures to be followed. Bills for medical care and treatment of Army personnel who have presented authorization or have received emergency treatment should be submitted to the commanding officer of the organization to which the patient belongs or to the military authority who provided the authorization for the medical service. If these addresses cannot be determined, the bill should be sent to the military authorities listed below.

For Services Rendered in the Following States

First Army Area	
Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont	Submit Bills to The Surgeon, First Army; Governors Island, New York, N. Y.
Second Army Area	
Delaware, Kentucky, Maryland, Ohio, Pennsylvania, Virginia, West Virginia	The Surgeon, Second Army; Fort George G. Meade, Maryland
Third Army Area	
Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee	The Surgeon, Third Army; Fort McPherson, Georgia
Fourth Army Area	
Arkansas, Louisiana, New Mexico, Oklahoma, Texas	The Surgeon, Fourth Army; Fort Sam Houston, Texas
Fifth Army Area	
Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Wisconsin, Wyoming	The Surgeon, Fifth Army; 1660 E. Hyde Park Blvd., Chicago 15, Ill.
Sixth Army Area	
Arizona, California, Idaho, Montana, Nevada, Oregon, Utah, Washington	The Surgeon, Sixth Army; Presidio of San Francisco, California
Military District of Washington	
Washington, D. C.	The Surgeon, Military District of Washington; Washington 25, D. C.

The bill should show the full name, rank, and service number of the patient and his organization. The place and inclusive dates of treatment, diagnosis, and itemized charges must be entered on the statement. The lack of this information seriously impairs prompt payment by the Army. The duty status of the patient at the time of illness or injury, such as duty, leave, or pass, should be included, if known. Payment will be further expedited if the following certificate is typed on the bill and signed:

I certify that the above charges are correct and just; that payment therefor has not been received; that the services were necessary in the care and treatment of the person named above; that the services were rendered as stated; and that the charges do not exceed those customarily charged in this vicinity.

(Signature of Payee) (Business Title or Capacity)

Answers to specific questions or further information concerning this matter may be requested of the military surgeons at the above addresses or from The Surgeon General, Department of the Army, Washington 25, D. C. Any difficulties that are experienced should be called to the attention of these Army authorities in order that this program may function smoothly toward the best interests of the patient as well as the claimant.

Personal.—Lieut. Col. Edward J. Dehné, former chief of preventive medicine, U. S. Army, Caribbean, has been named by the surgeon general head of the Army environmental health laboratory at the Army Chemical Center, succeeding Col. Joseph H. McNinch, who is now serving in the office of the surgeon general, Washington, D. C.——Col. Robert L. Callison has been appointed chief of the preventive medicine division in the surgeon general's office. He was certified as a diplomat by the American Board of Preventive Medicine and Public Health, and for the past two years he has headed the environmental control and sanitation branch of the preventive medicine division.

Postgraduate and Graduate Courses for Physicians

Compiled by the Council on Medical Education and Hospitals for the Period Sept. 1, 1955, to Aug. 31, 1956

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Note: *Postgraduate* courses are designed to keep the physician abreast of his field of practice or enlarge his knowledge in one aspect of it. *Graduate* courses are designed to prepare a physician entirely or in part for a specialty or an advanced academic degree.

A. POSTGRADUATE COURSES

Type	Designed for	Time Arrangements
R—Refresher	G—General Practitioners	C—Concentrated, full-time
S—Special	S—Specialists	I—Intermittent
	B—All Physicians	

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		2. ALLERGY							
2 P 01716	Allergy and Related Conditions [5, 87]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	50	Laboratory work Clinical case work	9/21/55	I; 5 hr. weekly for 10 wk. Wednesdays	125
2 P 01717	Allergy and Related Conditions [5, 87]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	50	Laboratory work Clinical case work	3/21/56	I; 5 hr. weekly for 10 wk. Wednesdays	125
2 P 01606	Asthma, Hay Fever and Allied Diseases [5, 28]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	140	Laboratory work Clinical case work	Arranged	C; 4 wk.	200
2 P 01609	Personal Course in Allergy [5, 28]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	500	Laboratory work Clinical case work	Arranged	C; 6 mo.	500
2 P 01608	Personal Course in Allergy [5, 28]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	140	Laboratory work Clinical case work	Arranged	C; 4 wk.	200
2 P 01607	Asthma, Hay Fever and Allied Diseases [5, 28]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	500	Laboratory work Clinical case work	Arranged	C; 6 mo.	500
2 P 01834	Allergic and Hormonal Management of Hay Fever and Asthma [11]	State University of Iowa College of Medicine Iowa City	R	B	6	Lecture or panel Demonstration	5/16/56	C; 1 day	10

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2 P 04319	American Academy of Allergy Postgraduate Course [1, 2]	Chase Hotel St. Louis	S	B	15	Lecture or panel	2/ 3/56	C; 3 days	Nil
2 P 02360	Allergy in Relation to Otolaryngology [3, 4, 5]	Park Plaza Hotel 220 N. Kingshighway, St Louis	S	S	35	Laboratory work Small group discussion Lecture or panel	5/30/56	C; 5 days	150
2 P 03306	5415-A Allergy [6]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	105	Laboratory work Clinical case work	10/31/55	C; 3 wk.	200
2 P 03546	Allergy [7, 8]	Beth-El Hospital Brooklyn, N. Y.	R	G	20	Lecture or panel Demonstration	10/55	I; 2 hr. weekly for 10 wk. Tuesdays	30
2 P 03307	5416-A Refresher Course in Allergic Conditions [8]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	21	Lecture or panel Demonstration	3/12/56	C; 3 days	50
2 P 03293	543-A Allergy [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	16	Lecture or panel Demonstration	4/13/56	I; 2 hr. weekly for 8 wk. Fridays	40
2 P 02279	Graduate Instructional Course in Allergy [10]	Hotel New Yorker New York	R	B	40	Laboratory work Clinical case work	4/15/56	C; 3 wk.	50
2 P 02962	Allergy DM1096	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	B	20	Clinical case work Small group discussion	Anytime	I; 2½ hr. weekly for 8 wk. Tuesdays	50
2 P 03150	Allergy	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	16	Laboratory work Clinical case work	Arranged	Specially arranged	50
2 P 03842	Allergy [11, 5]	Albert Einstein Medical Center, Northern Division York and Tabor Roads, Philadelphia 41	R	G	60	Clinical case work Lecture or panel	Fall, 1955	I; 3 hr. weekly for 20 wk. Thursdays	75
2 P 03872	Allergy [5, 11, 12]	Montefiore Hospital Fifth Ave. at Darragh, Pittsburgh	S	B	40	Laboratory work Clinical case work	5/ 7/56	C; 5 days	50
2 P 04294	Allergy	University of Washington School of Medicine Health Sciences Building, Seattle	R	B	Unknown	Clinical case work Small group discussion	Spring, 1956	C; to be arranged	Arranged

3. ANESTHESIOLOGY

3 P 01078	Anesthesiology [13, 14]	White Memorial Hospital 1720 Brooklyn Ave., Los Angeles 33	R	G	Unknown	Clinical case work Lecture or panel	Every 4 mo.	C; 16 wk.	300
3 P 01287	General Anesthesia [15, 16]	St. Francis Hospital 114 Woodland St., Hartford 5, Conn.	R	B	480	Clinical case work	9/15/55	C; 12 wk.	Nil
3 P 01288	Regional Anesthesia [15, 16]	St. Francis Hospital 114 Woodland St., Hartford 5, Conn.	R	B	480	Clinical case work	9/15/55	C; 12 wk.	Nil
3 P 01580	Course 1—Spinal, Regional, and Intravenous Anesthesia [13, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	70	Clinical case work Operative surgery	Arranged	C; 2 wk.	150
3 P 01581	Course 3—Inhalation Anesthesia [5, 100]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	140	Clinical case work Operative surgery	Arranged	C; 4 wk.	200
3 P 01582	Course 4—Endotracheal Anesthesia [5, 13]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	S	70	Clinical case work Operative surgery	Arranged	C; 2 wk.	150
3 P 01839	Postgraduate Course in Anesthesia [100]	State University of Iowa College of Medicine Iowa City	R	B	14	Small group discussion Lecture or panel	1/23/56	C; 2 days	20
3 P 01876	Anesthesiology [17]	University of Kansas Medical Center 39th and Rainbow Blvd., Kansas City 12, Kan.	S	B	21	Clinical case work Lecture or panel	4/16/56	C; 3 days	35
3 P 03268	512-A Regional Anesthesiology [18]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	70	Clinical case work Lecture or panel	9/ 6/55	C; 2 wk.	200
3 P 03270	514-A Anesthesiology [19]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	140	Laboratory work Clinical case work	9/19/55	C; 4 wk.	200
3 P 03151	Applied Anesthesiology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	640	Laboratory work Small group discussion	10/ 3/55	C; 12 wk.	300

References will be found on pages 1129-1131.

3. ANESTHESIOLOGY—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
3 P 03272	515-A Electrocardiography for Anesthesiologists [20]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	35	Clinical case work Small group discussion	10/17/55	C; 5 days	75
3 P 03265	516-A Anesthesiology: Endotracheal and Related Methods [21]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	35	Clinical case work Lecture or panel	1/23/56	C; 5 days	75
3 P 03271	514-B Anesthesiology [19]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	140	Laboratory work Lecture or panel	2/27/56	C; 4 wk.	200
3 P 03152	Applied Anesthesiology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	640	Laboratory work Clinical case work	4/ 2/56	C, 12 wk.	300
3 P 03519	Anesthesia [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	S	G	39	Clinical case work Operative surgery	4/23/56	C; 1 wk.	75
3 P 03269	512-B Regional Anesthesiology [18]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	70	Clinical case work	5/ 7/56	C; 2 wk.	200
3 P 03266	510-B Anesthesiology: Endotracheal and Related Methods [21]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	35	Clinical case work Lecture or panel	5/21/56	C; 5 days	75
3 P 02951	Clinical Anesthesiology DAN1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	S	Unknown	Operative surgery Small group discussion	Anytime	C; 12 wk.	200
3 P 03257	Postgraduate Courses in Anesthesia for Part Time Anesthetists [22]	Various hospitals throughout New York state	S	G	Varies	Clinical case work Small group discussion	Anytime	Specially arranged	Nil
3 P 02921	Resuscitation 6889	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	8	Small group discussion Lecture or panel	Inquire	C; 1 day	50
3 P 03267	511-A Anesthesiology (for Specialists) [23]	New York University Post-Graduate Medical School 550 First Ave., New York	R	S	70	Clinical case work Small group discussion	Unknown	C; 2 wk.	150
3 P 03154	Regional and Spinal Anesthesiology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	S	80	Laboratory work Small group discussion	Arranged	Specially arranged	150
3 P 03153	Anesthetic Technics	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	40	Laboratory work Small group discussion	Arranged	Specially arranged	100
3 P 03567	Anesthesiology [5]	Duke University School of Medicine Durham, N. C.	S	B	30	Lecture or panel Demonstration	10/20/55	C; 3 days	Unknown
3 P 03923	Recent Advances in the Pharmacology of Anesthetic Agents [192]	Graduate School of Medicine, University of Pennsylvania Philadelphia	R	S	24	Small group discussion Lecture or panel	3/19/56	C; 3 days	60
3 P 03959	Basic Sciences Related to Anesthesiology [52]	University of Pittsburgh School of Medicine 3941 O'Hara St. (Oakland), Pittsburgh 13	S	G	34	Laboratory work Lecture or panel	6/13/56	C; 1 wk.	25
3 P 04178	Anesthesiology [13, 206]	The University of Texas Postgraduate School of Medicine, Temple Division, Scott and White (Clinic) Hospitals Temple, Texas	R	G	176	Lecture or panel Demonstration	9/ 5/55	Specially arranged	25
3 P 04162	Anesthesiology	The University of Texas Postgraduate School of Medicine, Texas Medical Center In Houston, Texas	R	G	24	Unknown	9/29/55	C; 3 days	25
3 P 04192	Anesthesiology [46, 206]	The University of Texas Postgraduate School of Medicine, El Paso Division In El Paso, Texas	R	B	8	Lecture or panel	8/56	C; 1 day	10
3 P 04421	Refresher Course for General Practitioners [6]	Vancouver General Hospital Vancouver, British Columbia, Canada	R	G	..	Lecture or panel Theatre clinics	2/20/56	C; 3 days	15

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4. ANATOMY

4 P 01118	Head and Neck Surgery [5, 24]	Los Angeles Graduate School of Medicine 1858 W. Washington Blvd., Los Angeles	R	B	30	Laboratory work Small group discussion	9/ 7/55	I; 3 hr. weekly for 10 wk. Wednesdays	125
4 P 01114	General Surgery [5, 25]	Los Angeles Graduate School of Medicine 1858 W. Washington Blvd., Los Angeles	R	B	36	Laboratory work Small group discussion	9/12/55	I; 3 hr. weekly for 12 wk. Mondays	125
4 P 01080	Surgical Anatomy [26, 16]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	256	Laboratory work Lecture or panel	10/ 3/55	I; 4 hr. twice weekly for 12½ wk. Mondays, Wednesdays	125
4 P 01081	Surgical Anatomy—Upper and Lower Extremities [26, 16]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	100	Laboratory work Lecture or panel	10/ 3/55	I; 4 hr. twice weekly for 12½ wk. Mondays, Wednesdays	125
4 P 01084	Surgical Anatomy—Demonstrations and Lectures—Upper and Lower Extremities [26, 16]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	24	Lecture or panel Demonstration	10/ 5/55	I; 2 hr. weekly for 12 wk. Wednesdays	50
4 P 01085	Surgical Anatomy—Demonstrations and Lectures [26, 16]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	72	Lecture or panel Demonstration	10/ 5/55	I; 2¼ hr. weekly for 32 wk. Mondays, Wednesdays	100
4 P 01149	Gross and Applied Anatomy [97]	San Diego County General Hospital North End of Front Street, San Diego 3, Calif.	R	B	32	Lecture or panel Demonstration	10/55	I; 2 hr. weekly for 16 wk. Wednesdays	Nil
4 P 01134	Practical and Applied Anatomy [30]	Mercy Hospital Hillcrest Drive, San Diego, Calif	S	B	32	Laboratory work Lecture or panel	10/55	I; 2 hr. weekly for 16 wk. Wednesdays	Nil
4 P 01082	Surgical Anatomy—Thorax, Abdomen, and Pelvis [26, 16]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	104	Laboratory work Lecture or panel	1/18/56	I; 4 hr. twice weekly for 13 wk. Mondays, Wednesdays	125
4 P 01086	Surgical Anatomy—Demonstrations and Lectures—Thorax, Abdomen, and Pelvis [26, 16]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	26	Lecture or panel Demonstration	1/18/56	I; 2 hr. weekly for 13 wk. Wednesdays	50
4 P 01115	General Surgery [5, 25]	Los Angeles Graduate School of Medicine 1858 W. Washington Blvd., Los Angeles	R	B	36	Laboratory work Small group discussion	3/26/56	I; 3 hr. weekly for 12 wk. Mondays	125
4 P 01119	Head and Neck Surgery [5, 24]	Los Angeles Graduate School of Medicine 1858 W. Washington Blvd., Los Angeles	R	B	30	Laboratory work Small group discussion	4/ 4/56	I; 3 hr. weekly for 10 wk. Wednesdays	125
4 P 01077	Surgical Anatomy—Demonstrations and Lectures—Head and Neck [26, 16]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	22	Lecture or panel Demonstration	4/26/56	I; 2¾ hr. weekly for 7 wk. Mondays, Wednesdays	35
4 P 01083	Surgical Anatomy—Head and Neck [26, 16]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	52	Laboratory work Lecture or panel	4/26/56	I; 4 hr. twice weekly for 6½ wk. Mondays, Wednesdays	75
4 P 01293	Anatomy 202—Demonstrations in Anatomy	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	30	Laboratory work	9/55	I; 1 evening weekly for about 30 wk.	175
4 P 01292	Anatomy 201—Special Dissections in Anatomy	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	Arranged	Laboratory work	Arranged	Specially arranged	Arranged
4 P 01686	Surgical Anatomy on the Cadaver [5, 204]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Small group discussion Demonstration	9/22/55	I; 2 hr. weekly for 10 wk. Thursdays	125
4 P 01687	Surgical Anatomy on the Cadaver [5, 204]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Small group discussion Demonstration	3/22/56	I; 2 hr. weekly for 10 wk. Thursdays	125
4 P 02163	Anatomy [27]	Dept. of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich.	S	S	64	Laboratory work Lecture or panel	2/ 9/56	I; 4 hr. weekly for 16 wk. Thursdays	65
4 P 02238	Regional Anatomy—Head and Neck [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Laboratory work Lecture or panel	3/56	I; 4 hr. weekly for 11 wk.	50
4 P 02239	Regional Anatomy—Thorax, Abdomen, and Pelvis [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Laboratory work Lecture or panel	3/56	I; 4 hr. weekly for 11 wk.	50
4 P 02240	Regional Anatomy—Back and Extremities [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Laboratory work Lecture or panel	3/56	I; 4 hr. weekly for 11 wk.	50
4 P 03259	414-A Anatomy of the Head and Neck [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	144	Laboratory work Small group discussion	9/26/55	I; 3 times weekly for 12 wk. Mondays, Wednesdays, Fridays	90

References will be found on pages 1129-1131.

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		4. ANATOMY—Continued							
4 P 03260	412-A Anatomy of the Thorax and Its Viscera [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	144	Laboratory work Small group discussion	9/26/55	I; 3 times weekly for 12 wk. Mondays, Wednesdays, Fridays	90
4 P 03261	413-A Anatomy of the Abdomen [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	144	Laboratory work Small group discussion	9/26/55	I; 3 times weekly for 12 wk. Mondays, Wednesdays, Fridays	90
4 P 03264	416-A Anatomy of the Musculoskeletal System [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	144	Laboratory work Small group discussion	3/26/56	I; 4 hr. 3 times weekly for 12 wk. Mondays, Wednesdays, Fridays	90
4 P 03263	415-A Anatomy of the Genitourinary System [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	144	Laboratory work Small group discussion	3/26/56	I; 4 hr. 3 times weekly for 12 wk. Mondays, Wednesdays, Fridays	90
4 P 03262	414-A Anatomy of the Female Pelvis [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	144	Laboratory work Small group discussion	3/26/56	I; 4 hr. 3 times weekly for 12 wk. Mondays, Wednesdays, Fridays	90
4 P 02942	Applied Anatomy for the General Surgeon DA1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	S	250	Laboratory work Lecture or panel	Anytime	Specially arranged	375
4 P 02943	Anatomy of the Thorax DA1026	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	S	100	Laboratory work Small group discussion	Anytime	Specially arranged	150
4 P 02944	Anatomy of the Abdomen DA1036	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	S	100	Laboratory work Demonstration	Anytime	Specially arranged	150
4 P 02945	Applied Anatomy for the Otolaryngologist DA1046	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	S	150	Laboratory work Lecture or panel	Anytime	Specially arranged	275
4 P 02946	Applied Anatomy of the Urogenital System DA1056	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	S	130	Laboratory work Small group discussion	Anytime	Specially arranged	300
4 P 02947	Applied Anatomy for the Anesthetist DA1066	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	S	125	Laboratory work Demonstration	Anytime	Specially arranged	275
4 P 02948	Anatomy for the Orthopedic Surgeon DA1076	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	S	100	Laboratory work Demonstration	Anytime	Specially arranged	150
4 P 03100	Surgical Anatomy	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	12	Laboratory work Clinical case work	Arranged	Specially arranged for 2 wk.	Unknown
4 P 03101	Surgical Anatomy (B)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	12	Laboratory work Small group discussion	Arranged	Specially arranged for 2 wk.	200
4 P 03104	Surgical Anatomy (D)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	6	Laboratory work Cadaver demonstration	Arranged	Specially arranged	150
4 P 03107	Anatomy, Dissections, Demonstrations, and Lectures	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	12	Laboratory work Clinical case work	Arranged	Specially arranged	200
4 P 03860	Surgical Anatomy [57, 16]	University of Pittsburgh School of Medicine 3941 O'Hara St. (Oakland), Pittsburgh 13	R	B	180	Laboratory work Lecture or panel	10/55	Specially arranged	25
4 P 04161	Surgical Anatomy	The University of Texas Postgraduate School of Medicine, Texas Medical Center Houston, Texas	R	B	16	Laboratory work	9/55	I; 2 hr. monthly for 8 mo. Thursdays	50
4 P 04299	Surgical Anatomy of the Head and Neck	University of Washington School of Medicine Health Sciences Building, Seattle	R	B	30	Lecture or panel Demonstration	Spring, 1956	I; 3 hr. weekly for 10 wk.	Unknown
4 P 04443	Surgical Anatomy	Anatomy Department, Faculty of Medicine, University of Ottawa Ottawa, Canada	R	B	20	Unknown	Variable	Specially arranged	10
4 P 04458	Evening Anatomy Course [156, 16]	Faculty of Medicine, University of Toronto Toronto 5, Canada	S	S	48	Demonstration	9/26/55	I; 1½ hr. weekly for 32 wk. Mondays	60

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5. BASIC SCIENCES

5 P 01220	841: Cardio-Respiratory Physiology [182, 27]	Hospital of the Good Samaritan, U. S. C. Cardio-Respiratory Laboratory 1232 Shatto St., Los Angeles 17	S	S	36	Lecture or panel Demonstration	Unknown	I; 3 hr. weekly for 12 wk.	50
5 P 01968	Basic Sciences as They Apply to the Practice of Medicine [29, 30, 5]	University of Maryland School of Medicine 29 South Greene St., Baltimore	S	B	66	Lecture or panel	9/22/55	I; 2 hr. weekly for 33 wk. Wednesdays	50
5 P 04006	Postgraduate Basic Science Course [5]	University of South Dakota School of Medical Sciences Medicine and Science Building, Vermillion, S. D.	R	B	180	Laboratory work Small group discussion	9/ 1/55	Specially arranged	75
5 P 04007	Postgraduate Basic Science Course [5]	University of South Dakota School of Medical Sciences Medicine and Science Building, Vermillion, S. D.	R	B	180	Laboratory work Small group discussion	2/ 1/56	Specially arranged	75

6. BIOCHEMISTRY

6 P 04605	Biochemical Background of Clinical Medicine—a Basic Course [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Small group discussion Lecture or panel	9/21/55	I; 2 hr. weekly for 10 wk. Wednesdays	100
6 P 04606	Biochemical Background of Clinical Medicine—a Basic Course [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Small group discussion Lecture or panel	3/21/56	I; 2 hr. weekly for 10 wk. Wednesdays	100
6 P 02438	Biochemistry [5, 31, 16]	Seton Hall University South Orange, N. J.	S	B	24	Lecture or panel Demonstration	11/55	I; 2 hr. weekly for 12 wk. Wednesdays	75
6 P 02992	Survey of Biochemistry DBC1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	Unknown	Small group discussion Lecture or panel	10/55	Specially arranged	50
6 P 02994	Enzymes DBC1036 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	G	Unknown	Small group discussion Lecture or panel	10/55	Specially arranged	100
6 P 02998	Food and Nutrition DBC1076 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	Unknown	Small group discussion Lecture or panel	10/55	Specially arranged	80
6 P 02995	Vitamins DBC1046 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	Unknown	Small group discussion Lecture or panel	11/55	Specially arranged	100
6 P 02996	Hormones DBC1056 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	G	Unknown	Small group discussion Lecture or panel	12/55	Specially arranged	100
6 P 02997	Metabolic Disorders DBC1066 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Small group discussion Lecture or panel	1/56	Specially arranged	100
6 P 02999	Acid Base Balance DBC1086 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	G	Unknown	Small group discussion Lecture or panel	1/56	Specially arranged	50
6 P 02993	Intensive Review of Biochemistry DBC1026 [33]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	Unknown	Lecture or panel	Anytime	Specially arranged	50
6 P 03860	Radioisotope Methodology (Bio. Chem. 125 & 126) [5, 16, 34]	Hahnemann Medical College and Hospital 235 N. 15th St., Philadelphia 2	S	B	112	Laboratory work Clinical case work	9/19/55	I; 7 hr. weekly for 16 wk. Tuesdays, Wednesdays	75
6 P 04485	Radioisotope Methodology (Bio. Chem. 125 & 126) [5, 16, 34]	Hahnemann Medical College and Hospital 235 N. 15th St., Philadelphia 2	S	B	112	Laboratory work Clinical case work	2/ 6/56	I; 7 hr. weekly for 16 wk. Tuesdays, Wednesdays	75

7. CARDIOVASCULAR DISEASE

7 P 02930	Symposium on Heart Disease [293, 5]	Monterey County Heart Association Box 1329, 624 Cotton, Monterey, Calif.	R	B	Unknown	Small group discussion Lecture or panel	Fall, 1955	C; 2 days	10
7 P 01164	26th Annual Symposium on Heart Disease [35, 59]	Hotel St. Francis Powell and Geary Streets San Francisco 2	S	B	20	Clinical case work Lecture or panel	10/ 5/55	C; 3 days	25
7 P 01653	25th Annual Symposium on Heart Disease	Los Angeles County Heart Association 316 South Bonnie Brae St., Los Angeles	S	S	12½	Lecture or panel	10/12/55	C; 2 days	15
7 P 01120	Electrocardiography [5]	Los Angeles Graduate School of Medicine 1818 W. Washington Blvd., Los Angeles	R	B	24	Small group discussion Lecture or panel	1/ 4/56	I; 2 hr. weekly for 12 wk. Wednesdays	60

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		7. CARDIOVASCULAR DISEASE Continued							
7 P 01254	Clinical Electrocardiography [37]	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	R	B	24	Lecture or panel Demonstration	10/10/55	C; 3 days	15
7 P 01255	Fourth Western Cardiology Conference [38]	Colorado Heart Association 901 E. 17th St., Denver	R	B	20	Lecture or panel	10/13/55	C; 3 days	15
7 P 01295	Medicine 214—Advanced Clinical Electrocardiography [207]	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	B	12	Small group discussion	9/20/55	I; 1 hr. weekly for 12 wk. Tuesdays	50
7 P 01383	Advances in Electrocardiography [205, 205]	Mount Sinai Hospital of Greater Miami 4300 Alton Rd., Miami Beach, Fla.	S	S	21	Lecture or panel	11/ 7/55	C; 6 days	25
7 P 03830	The Heart and Great Vessels in 1955 [5, 240, 304, 53]	Massachusetts General Hospital Boston	S	S	44	Lecture or panel	12/ 5/55	C; 5½ days	30
7 P 01756	Advanced Electrocardiography—Complex Arrhythmias [5]	Michael Reese Hospital 29th Street and Ellis Avenue, Chicago 16	S	S	35	Small group discussion Lecture or panel	12/ 5/55	C; 5 days	100
7 P 01757	Electrocardiographic Interpretation [5]	Michael Reese Hospital 29th Street and Ellis Avenue, Chicago 16	S	B	24	Lecture or panel Demonstration	2/ 1/56	I; 2 hr. weekly for 12 wk. Wednesdays	50
7 P 01718	Cardiovascular Disease [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	S	20	Clinical case work Small group discussion	3/21/56	I; 2 hr. weekly for 10 wk. Wednesdays	100
7 P 01758	Electrocardiographic Interpretation	Michael Reese Hospital 29th Street and Ellis Avenue Chicago 16	S	B	70	Small group discussion Lecture or panel	5/28/56	C; 2 wk.	150
7 P 01805	Symposium on the Heart	Indiana University School of Medicine 1100 W. Michigan St., Indianapolis	R	B	10	Lecture or panel	2/15/56	C; 1 day	Nil
7 P 01806	Course in Electrocardiography [97, 5]	Indiana University School of Medicine 1100 W. Michigan St., Indianapolis	R	B	24	Lecture or panel	2/27/56	C; 3 days	35
7 P 01808	Clinical Cardiology [34, 5]	Indiana University School of Medicine 1100 W. Michigan St., Indianapolis	R	B	20	Clinical case work Lecture or panel	5/21/56	C; 2 days	25
7 P 01851	Diagnosis of Cardiovascular Lesion Remedial to Surgery [265]	State University of Iowa College of Medicine Iowa City	R	B	6	Lecture or panel Demonstration	3/29/56	C; 1 day	10
7 P 01871	16th Annual Heart Conference [39]	University of Kansas Medical Center 39th and Rainbow Blvd., Kansas City 12, Kan.	R	B	12	Lecture or panel	2/27/56	C; 2 days	Nil
7 P 01874	Clinical Cardiology [40, 41]	University of Kansas Medical Center 39th and Rainbow Blvd., Kansas City 12, Kan.	S	B	12	Clinical case work Small group discussion	3/19/56	C; 2 days	40
7 P 01878	Interpretation of Electrocardiograms—Course I (Correspondence Course) [42, 43]	University of Kansas Kansas City, Kan.	S	B	Unknown	Interpretation of electrocardiograms	Specially arranged	Specially arranged for 26 wk.	18
7 P 01879	Interpretation of Electrocardiograms—Course II (Correspondence Course) [42, 43]	University of Kansas Kansas City, Kan.	S	B	Unknown	Interpretation of electrocardiograms	Specially arranged	Specially arranged for 26 wk.	17
7 P 03823	Congenital Heart Disease [240, 242, 5, 241]	Johns Hopkins Hospital Baltimore	S	S	40	Lecture or panel	11/14/55	C; 5 days	30 to members
7 P 01992	Practical Electrocardiography—Course B [44, 41, 5]	Beth Israel Hospital 330 Brookline Ave., Boston	S	G	30	Small group discussion Demonstration	10/ 5/55	I; 3 hr. weekly for 10 wk. Wednesdays	100
7 P 02127	Electrocardiography 1 [210, 153]	New England Center Hospital 171 Harrison Ave., Boston	R	B	25	Clinical case work Small group discussion	11/28/55	C; 1 wk.	40
7 P 03829	Cardiology [210, 393, 394, 5]	The University of Texas Southwestern Medical School 5323 Harry Hines Blvd., Dallas 19, Texas	S	S	40	Lecture or panel	1/16/56	C; 5 days	30
7 P 02128	Electrocardiography 2 [210, 11]	New England Center Hospital 171 Harrison Ave., Boston	R	B	15	Clinical case work Small group discussion	1/ 9/56	C; 2 days	25
7 P 01993	EKG Clinics—Course D [44, 41, 5]	Beth Israel Hospital 330 Brookline Ave., Boston	S	B	30	Small group discussion Demonstration	3/ 7/56	I; 3 hr. weekly for 10 wk. Wednesdays	100
7 P 01994	EKG Clinics—Course C [44, 5]	Beth Israel Hospital 330 Brookline Ave., Boston	S	B	30	Small group discussion Demonstration	4/16/56	C; 5 days	100

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7 P 01991	Practical Electrocardiography—Course A [44, 43, 5]	Beth Israel Hospital 330 Brookline Ave., Boston	S	G	30	Small group discussion Demonstration	4/16/56	C; 5 days	100
7 P 02166	Electrocardiographic Diagnosis [45]	Dept. of Postgraduate Medicine University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	S	35	Lecture or panel	3/56	C; 5½ days	75
7 P 02319	Cardiovascular Diseases for General Physicians [33, 5]	University of Minnesota Center for Continuation Study Minneapolis	R	G	16	Lecture or panel	3/19/56	C; 3 days	25
7 P 02386	Postgraduate Study of Cardiology [253]	Missouri Heart Association Eighth and Locust, Columbia, Mo.	R	B	10	Lecture and panel	Unknown	C; 2 days	Unknown
7 P 02354	Cardiovascular Seminar [5]	University of Mississippi School of Medicine, University Medical Center Jackson, Miss.	R	B	20	Lecture or panel	6/56	C; 3 days	5
7 P 02456	Cardiac Resuscitation [224, 5]	St. Michael's Hospital 306 High St., Newark, N. J.	S	S	63	Operative surgery Small group discussion	10/ 1/55	I; 7 hr. monthly for 9 mo.	25
7 P 02453	Cardiology for the General Practitioner [226, 5]	St. Michael's Hospital 306 High St., Newark, N. J.	S	G	75	Small group discussion Lecture or panel	10/19/55	I; 5 hr. weekly for 15 wk. Wednesdays	25
7 P 02454	Advanced Course in Clinical Cardiology [225, 5]	St. Michael's Hospital 306 High St., Newark, N. J.	R	B	14	Lecture or panel Demonstration	10/20/55	I; 2 hr. monthly for 7 mo. Wednesdays	25
7 P 02436	Cardiology (Clinical) and Electrocardiography [5, 46]	Seton Hall University South Orange, N. J.	S	B	40	Lecture or panel Demonstration	11/ 4/55	I; 2 hr. weekly for 20 wk. Fridays	100
7 P 02480	Principles of Electrocardiography	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	S	B	12	Small group discussion	9/14/55	I; 2 hr. weekly for 6 wk. Wednesdays	60
7 P 02840	Med PM 63—Cardiology 3 [31]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	78	Laboratory work Clinical case work Small group discussion	9/20/55	I; 3 hr. weekly for 26 wk. Tuesdays	150
7 P 02841	Med PM 63A—Clinical Electrocardiography [31]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	26	Small group discussion Demonstration	9/20/55	I; 1 hr. weekly for 26 wk. Tuesdays	100
7 P 02842	Med PM 64—Surgical Treatment of Heart Disease	Montefiore Hospital East Gun Hill Road, New York 67	R	B	46	Laboratory work Clinical case work	9/20/55	I; 3½ hr. weekly for 26 wk. Tuesdays	150
7 P 02838	Med PM 62—Cardiology 2 [31]	Montefiore Hospital East Gun Hill Road, New York 67	S	B	78	Laboratory work Clinical case work Small group discussion	9/22/55	I; 3 hr. weekly for 26 wk. Thursdays	150
7 P 02839	Med PM 60—Cardiology 1 [31]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	78	Laboratory work Clinical case work Small group discussion	9/22/55	I; 3 hr. weekly for 26 wk. Thursdays	150
7 P 03508	Introduction to Electrocardiography [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	S	G	9	Lecture or panel Demonstration	10/ 5/55	I; 3 hr. weekly for 3 wk.	20
7 P 03500	Basic Electrocardiography [5]	State University of New York, Upstate Medical Center 766 Irving Ave., Syracuse, N. Y.	R	B	14	Lecture or panel Demonstration	10/ 6/55	I; 2 hr. weekly for 7 wk. Thursdays	15
7 P 03494	A Group of Seminars of Heart Disease [42]	St. Francis Hospital and Sanatorium Roslyn, N. Y.	R	B	16	Lecture or panel	10/11/55	I; 2 hr. monthly for 8 mo. Tuesdays	Nil
7 P 02481	Advanced Course in Interpretation of Electrocardiograms	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	S	B	12	Small group discussion	10/26/55	I; 2 hr. weekly for 6 wk. Wednesdays	60
7 P 03512	Electrocardiographic Interpretation [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	24	Small group discussion Lecture or panel	10/26/55	I; 3 hr. weekly for 8 wk. Wednesdays	50
7 P 03316	5427-A Auscultation of the Heart [5]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	21	Lecture or panel Demonstration	10/31/55	C; 3 days	50
7 P 02802	Electrocardiography for the G.P. [7, 8]	Jewish Hospital Brooklyn, N. Y.	R	G	18	Lecture or panel Demonstration	10/55	I; 1 hr. 3 times weekly for 6 wk. Mondays, Tuesdays, Thursdays	30
7 P 03545	Basic Electrocardiography [7, 8]	Beth-El Hospital Brooklyn, N. Y.	R	G	12	Lecture or panel	10/55	I; 1 hr. twice weekly for 6 wk. Mondays, Fridays	20
7 P 03547	Interpretation of the Electrocardiogram [7, 8]	Coney Island Hospital Brooklyn, N. Y.	R	G	10	Lecture or panel Demonstration	10/55	I; 1 hr. weekly for 10 wk. Tuesdays	20

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		7. CARDIOVASCULAR DISEASE Continued							
7 P 03318	5428-A Cardiac Roentgenology [8]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	14	Lecture or panel Demonstration	11/ 3/55	C; 2 days	30
7 P 03312	5423-A Electrocardiography [8]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	35	Lecture or panel Demonstration	11/14/55	C; 5 days	75
7 P 03641	Med PM 62—Cardiology 2 [31]	Montefiore Hospital East Gun Hill Road, New York 67	S	B	78	Laboratory work Clinical case work Small group discussion	1/ 5/56	I; 3 hr. weekly for 26 wk. Thursdays	150
7 P 03642	Med PM 60—Cardiology 1 [31]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	78	Laboratory work Clinical case work Small group discussion	1/ 5/56	I; 3 hr. weekly for 26 wk. Thursdays	150
7 P 03321	5431-A Modern Concepts in the Etiology, Diagnosis, and Treatment of Heart Diseases [47]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	35	Lecture or panel Demonstration	1/ 9/56	C; 5 days	50
7 P 01339	Med PM 63A—Clinical Electrocardiography [31]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	26	Small group discussion Demonstration	1/31/56	I; 1 hr. weekly for 26 wk. Tuesdays	100
7 P 03640	Med PM 63—Cardiology 3 [31]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	78	Laboratory work Clinical case work Small group discussion	1/31/56	I; 3 hr. weekly for 26 wk. Tuesdays	150
7 P 02479	Recent Advances in Therapy of Cardiovascular Disease	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	R	B	20	Small group discussion Lecture or panel	2/ 3/56	C; 2½ days	25
7 P 03317	5427-B Auscultation of the Heart [8]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	21	Lecture or panel Demonstration	2/27/56	C; 3 days	50
7 P 03319	5428-B Cardiac Roentgenology [8]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	14	Lecture or panel Demonstration	3/ 1/56	C; 2 days	30
7 P 03313	5423-B Electrocardiography [8]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	35	Lecture or panel Demonstration	3/19/56	C; 5 days	75
7 P 03294	544-A Cardiology [48]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	24	Lecture or panel Demonstration	4/12/56	I; 3 hr. weekly for 8 wk. Thursdays	75
7 P 03295	544-B Clinical Electrocardiography [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	12	Lecture or panel Demonstration	4/12/56	I; 1½ hr. weekly for 8 wk. Thursdays	40
7 P 03499	Advanced Electrocardiography [5]	State University of New York, Upstate Medical Center 766 Irving Ave., Syracuse, N. Y.	R	B	14	Lecture or panel	4/12/56	I; 2 hr. weekly for 7 wk. Thursdays	15
7 P 02786	Clinical Cardiology [7, 49]	Beth-El Hospital Brooklyn, N. Y.	R	G	18	Clinical case work Lecture or panel	4/56	I; 1½ hr. twice weekly for 6 wk. Wednesdays, Fridays	30
7 P 02787	Interpretation of the Electrocardiogram [7, 8]	Coney Island Hospital Brooklyn, N. Y.	R	G	10	Lecture or panel Demonstration	4/56	I; 1 hr. weekly for 10 wk. Tuesdays	20
7 P 03142	Electrocardiographic Interpretation	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	10	Laboratory work Clinical case work	Arranged	Specially arranged	75
7 P 04495	Clinical Correlation in Electrocardiograms with Disease Processes (Hospitalized Patients)	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	S	B	24	Small group discussion	Arranged	I; 2 hr. weekly for 12 wk. Wednesdays	60
7 P 02956	Cardiology DM1046 [50]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	B	60	Clinical case work Small group discussion	Anytime	I; 3 hr. weekly for 20 wk. Wednesdays	150
7 P 02957	Electrocardiography DM1056 [8]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	B	25	Small group discussion Demonstration	Anytime	C; 2 wk.	100
7 P 03314	5425-A Cardiology [8]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	21	Lecture or panel Demonstration	Unknown	C; 3 wk.	250

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7 P 03564	Electrocardiographic Review (Advanced in January) [5, 281]	Duke University School of Medicine Durham, N. C.	R	B	18	Laboratory work Lecture or panel	1/56	C; 3 days	100
7 P 03560	Postgraduate Course in Cardiovascular Disease [227, 228]	The Bowman Gray School of Medicine of Wake Forest College Winston-Salem, N. C.	S	B	24	Clinical case work Lecture or panel	6/21/56	C; 3 days	Nil
7 P 03565	Electrocardiographic Review (Primary in June) [5, 281]	Duke University School of Medicine Durham, N. C.	R	B	18	Laboratory work Lecture or panel	6/56	C; 3 days	100
7 P 03844	Cardiology [144, 5]	Albert Einstein Medical Center, Southern Division Fifth and Reed Streets, Philadelphia 47	R	G	60	Clinical case work Lecture or panel	Fall, 1955	I; 3 hr. weekly for 20 wk. Wednesdays	75
7 P 03858	Advanced Cardiology Course [51]	Hahnemann Medical College and Hospital 235 N. 15th St., Philadelphia 2	S	G	45	Small group discussion Demonstration	10/55	I; 1½ hr. weekly for 30 wk. Thursdays	150
7 P 03857	Post Graduate Cardiology Course [5, 52]	Hahnemann Medical College and Hospital 235 N. 15th St., Philadelphia 2	R	G	90	Lecture or panel Demonstration	10/55	I; 3 hr. weekly for 30 wk. Thursdays	150
7 P 03924	Cardiovascular Diagnosis [101]	Graduate School of Medicine, University of Pennsylvania Philadelphia	R	B	6	Small group discussion Lecture or panel	1/11/56	I; 3 hr. weekly for 2 wk. Wednesdays	75
7 P 04105	Clinical Electrocardiography [51, 5]	University of Tennessee College of Medicine 874 Union Ave., Memphis, Tenn.	R	G	23	Clinical case work Small group discussion	10/ 5/55	C; 3 days	50
7 P 04108	Cardiac Arrest [51, 5]	University of Tennessee College of Medicine 874 Union Ave., Memphis, Tenn.	R	G	13	Clinical case work Small group discussion	10/20/55	C; 2 days	30
7 P 04131	Cardiology [210, 221, 211]	The University of Texas Southwestern Medical School 5323 Harry Hines Blvd., Dallas, Texas	R	S	35	Lecture or panel	1/16/56	C; 1 wk	30 to members
7 P 04182	Electrocardiology [115, 206]	The University of Texas Postgraduate School of Medicine, Temple Division, Scott and White (Clinic) Hospitals Temple, Texas	R	G	70	Laboratory work Lecture or panel	2/ 6/56	Specially arranged	25
7 P 04168	Practical Cardiology	The University of Texas Postgraduate School of Medicine, Texas Medical Center Houston, Texas	R	B	24	Laboratory work Lecture or panel	3/56	C; 3 days	Unknown
7 P 04250	Functional and Degenerative Cardiovascular Disease—Origin and Treatment ?	University of Vermont College of Medicine Burlington, Vt.	S	B	8	Lecture or panel	9/14/55	C; 2 days	10
7 P 04249	A Seminar in Electrocardiography and the Diagnosis of Ventricular and Auricular Hypertrophy	University of Vermont College of Medicine Burlington, Vt.	S	B	14	Small group discussion Lecture or panel	9/16/55	C; 2 days	10
7 P 04297	Recent Advances in Cardiology	University of Washington School of Medicine Health Sciences Building, Seattle	R	B	15	Clinical case work	Winter, 1956	C; 2 days	20

8. DERMATOLOGY

8 P 01097	Dermatology [23]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	G	18	Small group discussion Demonstration	1/10/56	I; 1½ hr. weekly for 12 wk. Tuesdays	40
8 P 01262	Dermatology for General Practitioners	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	R	G	20	Lecture or panel Demonstration	7/56	C; 3 days	30
8 P 01729	Dermatology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	25	Laboratory work Clinical case work	9/22/55	I; 2½ hr. weekly for 10 wk. Thursdays	100
8 P 01654	Dermatology [5, 64]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Clinical case work Small group discussion	10/17/55	C; 2 wk.	100
8 P 01728	Dermatology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	25	Laboratory work Clinical case work	3/22/56	I; 2½ hr. weekly for 10 wk. Thursdays	100
8 P 01655	Dermatology [5, 64]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Clinical case work Small group discussion	5/ 7/56	C; 2 wk.	100
8 P 01656	Clinical Dermatology [5, 21]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Clinical case work Small group discussion	Arranged	C; 2 wk.	75

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		8. DERMATOLOGY—Continued							
8 P 01657	Clinical Dermatology [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	120	Clinical case work Small group discussion	Arranged	C; 4 wk.	125
8 P 01827	Dermatology and Syphilology Postgraduate Course [17,9]	State University of Iowa College of Medicine Iowa City	R	B	8	Small group discussion Lecture or panel	10/28/55	C; 1 day	10
8 P 02220	Dermatology Seminar	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	22	Small group discussion	Unknown	I; 2 hr. weekly for 11 wk.	15
8 P 02221	Dermatopathology Seminar	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	11	Small group discussion	Unknown	I; 1 hr. weekly for 11 wk.	15
8 P 02327	Dermatology for General Physicians [23, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Lecture or panel	6/4/56	C; 3 days	25
8 P 03273	521-A Comprehensive Review in Dermatological Histopathology [19]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	28	Laboratory work Lecture or panel	9/19/55	C; 4 days	75
8 P 03275	524-A Dermatology and Syphilology (Designed for Pediatricians) [19]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	35	Clinical case work Lecture or panel	10/10/55	C; 5 days	75
8 P 03511	Dermatology [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	18	Clinical case work Small group discussion	10/26/55	I; 3 hr. weekly for 6 wk. Wednesdays	35
8 P 02781	Diagnosis and Treatment of Common Skin Disorders [7, 8]	Beth-El Hospital Brooklyn, N. Y.	R	G	8	Clinical case work Lecture or panel	10/55	I; 1 hr. weekly for 8 wk. Tuesdays	20
8 P 03274	522-A Seminar in Dermatology and Syphilology (Designed for Nondermatologists) [19]	New York University Post-Graduate Medical School 550 First Ave., New York	R	G	35	Clinical case work Lecture or panel	1/16/56	C; 5 days	75
8 P 02768	Diagnosis and Treatment of Common Skin Disorders [7, 8]	Beth-El Hospital Brooklyn, N. Y.	R	G	8	Clinical case work Lecture or panel	4/56	I; 1 hr. weekly for 8 wk. Tuesdays	20
8 P 03397	523-A Symposium on Dermatology and Syphilology [19]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	35	Clinical case work Lecture or panel	5/14/56	C; 5 days	85
8 P 03398	527-A Demonstrations of Practical Clinical Dermatology and Syphilology	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	Unknown	Laboratory work Clinical case work	Arranged	Specially arranged	Unknown
8 P 03399	528-A Practical Instruction in Dermatologic Mycology and Animal Parasitology	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	Unknown	Laboratory work Clinical case work	Arranged	Specially arranged	Unknown
8 P 03400	529-A Practical Instruction in Dermatologic Therapy	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	Unknown	Laboratory work Clinical case work	Arranged	Specially arranged	Unknown
8 P 03401	5210-A Practical Instruction in Dermatologic Surgery	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	Unknown	Operative surgery Demonstration	Arranged	Specially arranged	Unknown
8 P 03402	5211-A Practical Instruction in Dermatologic Allergy and Immunology	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	Unknown	Laboratory work Clinical case work	Arranged	Specially arranged	Unknown
8 P 03403	5212-A Practical Instruction in Physical Therapy	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	Unknown	Laboratory work Clinical case work	Arranged	Specially arranged	Unknown
8 P 03404	5213-A Practical Instruction in Industrial and Occupational Dermatoses	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	Unknown	Lecture or panel Seminars	Arranged	Specially arranged	Unknown
8 P 03405	5214-A Practical Instruction in Dermatologic Histopathology	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	Unknown	Laboratory work	Arranged	Specially arranged	Unknown
8 P 03406	5215-A Practical Instruction in Dermatologic Hematology	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	Unknown	Laboratory work	Arranged	Specially arranged	Unknown
8 P 03407	5216-A Practical Instruction in Dermatologic Photography	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	Unknown	Laboratory work Photography	Arranged	Specially arranged	Unknown

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8 P 03408	5217-A Practical Instruction in Diagnosis, Prevention, Treatment, Statistical Follow-Up, and Public Health Aspects of Venereal Diseases	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	Unknown	Laboratory work Clinical case work	Arranged	Specially arranged	Unknown
8 P 03409	5218-A Experiments and Research in Biochemistry, Biophysics and Other Laboratory Methods as Applied to the Physiology and Pathology of the Skin	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	Unknown	Laboratory work	Arranged	Specially arranged	Unknown
8 P 03845	Dermatology [52, 5]	Albert Einstein Medical Center, Northern Division York and Tabor roads, Philadelphia 41	R	G	30	Clinical case work Lecture or panel	Spring, 1956	I; 2½ hr. weekly for 12 wk. Thursdays	35
8 P 04103	Dermatology [51, 5]	University of Tennessee College of Medicine 874 Union Ave., Memphis, Tenn.	R	G	23	Clinical case work Small group discussion	5/ 9/56	C; 3 days	50
8 P 04175	Dermatology and Syphilology [13, 200]	The University of Texas Postgraduate School of Medicine, Temple Division, Scott and White (Clinic) Hospitals Temple, Texas	R	G	88	Laboratory work Clinical case work	Arranged	Specially arranged for 2 wk.	25
8 P 01340	Annual Venereal Disease Postgraduate Course [220, 221]	At different universities determined each year	R	B	30	Lecture or panel	Unknown	C; 5 days	Nil
			9. ENDOCRINOLOGY						
9 P 01043	Dynamics of Endocrine Disease [5, 53]	Institute for Metabolic Research of the Highland Alameda County Hospital 2701 14th Ave., Oakland 6, Calif.	S	B	45	Small group discussion Lecture or panel	1/30/56	C; 1 wk.	100
9 P 03752	Seventh Postgraduate Assembly in Endocrinology and Metabolism [5, 54, 55]	Indiana University Medical Center Indiana State Board of Health Building, Indianapolis	R	B	35	Clinical case work Lecture or panel Demonstration	9/26/55	C; 5½ days	100
9 P 01807	Postgraduate Assembly in Endocrinology [200, 5]	Indiana University School of Medicine 1100 W. Michigan St., Indianapolis	S	B	Unknown	Lecture or panel Demonstration	9/26/55	C; 5½ days	100
9 P 02167	Metabolism and Endocrinology [27]	Dept. of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	B	30	Lecture or panel Demonstration	3/56	C; 5 days	50
9 P 02322	Endocrinology for General Physicians [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Lecture or panel	4/16/56	C; 3 days	25
9 P 02785	Metabolic Endocrinology [7, 9]	Kings County Hospital Brooklyn, N. Y.	R	G	15	Clinical case work Lecture or panel	10/55	I; 1½ hr. weekly for 10 wk. Tuesdays	20
9 P 02794	Medical and Gynecologic Endocrinology [7, 9]	Jewish Hospital Brooklyn, N. Y.	R	G	10	Clinical case work Lecture or panel	10/55	I; 1 hr. weekly for 10 wk. Mondays	20
9 P 03505	Endocrine disease [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	7	Clinical case work Small group discussion	2/ 9/56	C; 1 day	15
9 P 02793	Medical and Gynecologic Endocrinology [7, 9]	Jewish Hospital Brooklyn, N. Y.	R	G	10	Clinical case work Lecture or panel	4/56	I; 1 hr. weekly for 10 wk. Mondays	20
9 P 03300	549-A Endocrinology [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	23	Lecture or panel Demonstration	4/ 9/56	I; 1 hr. 3 times weekly for 8 wk. Mondays, Thursdays, Fridays	40
9 P 02955	Endocrinology DM1036 [49]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	B	Unknown	Small group discussion Demonstration	Anytime	C; 2 wk.	100
9 P 04190	Thyroid Diseases [206, 46]	The University of Texas Postgraduate School of Medicine, Corpus Christi Division Corpus Christi, Texas	R	B	6	Lecture or panel	11/55	C; 1 day	10
9 P 04165	Endocrinology	The University of Texas Postgraduate School of Medicine, Texas Medical Center Houston, Texas	R	B	24	Lecture or panel	1/56	C; 3 days	25
			10. ENDOSCOPY						
10 P 01605	One Week Advanced Course in Gastroscopy and Gastroenterology [8, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	S	25	Laboratory work Clinical case work	9/12/55	C; 1 wk.	150
10 P 01635	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	9/12/55	C; 10 days	150

References will be found on pages 1129-1131.

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		10. ENDOSCOPY—Continued							
10 P 01690	Clinical Bronchoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	24	Laboratory work Clinical case work	9/14/55	I; 3 hr. weekly for 8 wk. Wednesdays	150
10 P 01583	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	9/19/55	C; 1 wk.	100
10 P 01584	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	10/17/55	C; 1 wk.	100
10 P 01636	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	10/24/55	C; 10 days	150
10 P 01603	Gastroscopy and Gastroenterology [5, 131]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	40	Laboratory work Clinical case work	11/ 7/55	C; 2 wk.	200
10 P 01637	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	11/ 7/55	C; 10 days	150
10 P 01691	Clinical Bronchoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	24	Laboratory work Clinical case work	11/ 9/55	I; 3 hr. weekly for 8 wk. Wednesdays	150
10 P 01585	Clinical Bronchoscopy [141, 5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	11/21/55	C; 1 wk.	100
10 P 01638	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	11/28/55	C; 10 days	150
10 P 01586	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	12/19/55	C; 1 wk.	100
10 P 01639	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	1/ 9/56	C; 10 days	150
10 P 01587	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	1/16/56	C; 1 wk.	100
10 P 01640	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	1/23/56	C; 10 days	150
10 P 01641	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	2/ 6/56	C; 10 days	150
10 P 01692	Clinical Bronchoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	24	Laboratory work Clinical case work	2/ 8/56	I; 3 hr. weekly for 8 wk. Wednesdays	150
10 P 01588	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	2/20/56	C; 1 wk.	100
10 P 01642	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	2/20/56	C; 10 days	150
10 P 01643	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	3/ 5/56	C; 10 days	150
10 P 01589	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	3/19/56	C; 1 wk.	100
10 P 01604	Gastroscopy and Gastroenterology [5, 131]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	40	Laboratory work Clinical case work	3/19/56	C; 2 wk.	200
10 P 01644	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	3/19/56	C; 10 days	150

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10 P 01645	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	4/ 2/56	C; 10 days	150
10 P 01693	Clinical Bronchoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	24	Laboratory work Clinical case work	4/ 4/56	I; 3 hr. weekly for 8 wk. Wednesdays	150
10 P 01590	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	4/16/56	C; 1 wk.	100
10 P 01646	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	4/30/56	C; 10 days	150
10 P 01647	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	5/14/56	C; 10 days	150
10 P 01591	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	5/21/56	C; 1 wk.	100
10 P 01648	10 Day Practical Course in Cystoscopy	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	6/ 4/56	C; 10 days	150
10 P 01592	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	6/18/56	C; 1 wk.	100
10 P 01649	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	6/18/56	C; 10 days	150
10 P 01650	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	7/ 9/56	C; 10 days	150
10 P 01593	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	7/16/56	C; 1 wk.	100
10 P 01651	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	7/23/56	C; 10 days	150
10 P 01652	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	8/ 6/56	C; 10 days	150
10 P 01594	Clinical Bronchoscopy [5, 197]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	8/20/56	C; 1 wk.	100
10 P 01653	10 Day Practical Course in Cystoscopy [5, 23]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	8/21/56	C; 10 days	150
		11. FORENSIC MEDICINE							
11 P 03276	533-A Toxicology (Section 1) [21]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	420	Laboratory work Lecture or panel	By arrangement	C; 3 mo.	300
11 P 03277	533-A Toxicology (Section 2) [21]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	420	Laboratory work Lecture or panel	By arrangement	C; 3 mo.	300
11 P 03278	533-A Toxicology (Section 3) [21]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	840	Laboratory work Lecture or panel	By arrangement	C; 6 mo.	500
11 P 03279	533-A Toxicology (Section 4) [21]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	1,260	Laboratory work Lecture or panel	By arrangement	C; 9 mo.	700
11 P 03280	533-A Toxicology (Section 5) [21]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	420	Laboratory work Lecture or panel	By arrangement	C; 3 mo.	300
		12. FRACTURES							
12 P 01509	The Study of the Treatment and Care of Various Types of Fracture Therapy [56]	Hotel Fontainebleau Collins Avenue, Miami Beach, Fla.	S	B	25	Clinical case work Operative surgery Small group discussion	9/19/55	C; 5 days	25
12 P 01629	Course 3—Fractures and Traumatic Surgery [5, 127]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	86	Laboratory work Clinical case work	10/17/55	C; 2 wk.	150

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		12. FRACTURES—Continued							
12 P 01630	Course 3—Fractures and Traumatic Surgery [5, 127]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	86	Laboratory work Clinical case work	3/12/56	C; 2 wk.	150
12 P 01685	Fractures [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Laboratory work Clinical case work	3/21/56	I; 6 hr. weekly for 10 wk. Wednesdays	125
12 P 01631	Course 3—Fractures and Traumatic Surgery [5, 127]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	86	Laboratory work Clinical case work	6/18/56	C; 2 wk.	150
12 P 01684	Fractures [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Laboratory work Clinical case work	9/21/55	I; 6 hr. weekly for 10 wk. Wednesdays	125
12 P 01632	Course 2—Clinical Fractures [5, 21]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Clinical case work Operative surgery	Arranged	C; 1 wk.	50
12 P 02308	Fractures for General Physicians [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Lecture or panel	11/21/55	C; 3 days	25
12 P 02964	Fractures and Allied Trauma DF1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Laboratory work Lecture or panel	Fall and Spring	C; 4 wk.	200
12 P 04104	Fractures and Dislocations [51, 5]	University of Tennessee College of Medicine 874 Union Ave., Memphis, Tenn.	R	G	23	Clinical case work Small group discussion	4/25/56	C; 3 days	50
12 P 04186	Fractures [296]	The University of Texas Postgraduate School of Medicine State Medical Association Library Building, Austin, Texas	R	G	16	Lecture or panel	1/16/56	I; 2 hr. weekly for 8 wk. Mondays	25
12 P 04169	Fractures	The University of Texas Postgraduate School of Medicine, Texas Medical Center Houston, Texas	R	G	24	Lecture or panel	3/56	C; 3 days	25
		13. GASTROENTEROLOGY							
13 P 01221	846: Seminars in Advanced Gastroenterology	University of Southern California School of Medicine Medical Research Building, 2025 Zonal Ave., Los Angeles 33	R	B	24	Small group discussion Lecture or panel	Unknown	I; 2 hr. weekly for 12 wk.	50
13 P 01726	Gastroenterology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	9/21/55	I; 2 hr. weekly for 10 wk. Wednesdays	100
13 P 01597	Gastroenterology [5, 26]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Laboratory work Clinical case work	10/24/55	C; 2 wk.	100
13 P 02885	Postgraduate Gastroenterology [5, 213, 263]	Hotel Shoreland 5454 S. Shore Drive, Chicago 15	R	B	18	Lecture or panel	10/27/55	C; 3 days	35 to members
13 P 01727	Gastroenterology [5, 28]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	3/21/56	I; 2 hr. weekly for 10 wk. Wednesdays	100
13 P 01598	Gastroenterology [5, 26]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Laboratory work Clinical case work	5/14/56	C; 2 wk.	100
13 P 01891	Gastroenterology [40]	University of Kansas Medical Center 39th and Rainbow Boulevard, Kansas City 12, Kan.	S	B	14	Clinical case work Lecture or panel	1/25/56	C; 2 days	30
13 P 02173	Diseases of the Gastro-Intestinal Tract [57]	Dept. of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	B	40	Lecture or panel Demonstration	4/56	C; 5 days	50
13 P 02309	Gastroenterology for General Physicians [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Lecture or panel	12/ 1/55	C; 3 days	25
13 P 02847	Med PM 70—Gastroenterology [31]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	56	Clinical case work Small group discussion Lecture or panel	9/12/55	I; 3½ hr. weekly for 16 wk. Tuesdays	75

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13 P 03510	Gastroenterology [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	14	Clinical case work Small group discussion	10/12/55	C; 2 days	30
13 P 02779	Gastroenterology [7, 8]	Greenpoint Hospital Brooklyn, N. Y.	R	G	14	Lecture or panel	10/55	I; 1 hr. twice weekly for 7 wk. Tuesdays, Wednesdays	20
13 P 02800	Clinical Gastroenterology [7, 8]	Jewish Hospital Brooklyn, N. Y.	R	G	8	Lecture or panel Demonstration	10/55	I; 1 hr. weekly for 8 wk. Mondays	20
13 P 03325	5435-A Gastroscopy and Flexible Tube Esophagoscopy [13]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	36	Clinical case work Small group discussion	11/55	I; 1 hr. 3 times weekly for 12 wk. Mondays, Wednesdays, Fridays	200
13 P 02848	Med PM 73 Advanced Gastroenterology [58]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	56	Laboratory work Clinical case work Small group discussion	1/17/56	I; 3½ hr. weekly for 16 wk. Tuesdays	75
13 P 04488	5435-A Gastroscopy and Flexible Tube Esophagoscopy [13]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	36	Clinical case work Small group discussion	3/56	I; 1 hr. 3 times weekly for 12 wk. Mondays, Wednesdays, Fridays	200
13 P 03302	5411-A Gastroenterology [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	24	Lecture or panel Demonstration	4/11/56	I; 3 hr. weekly for 8 wk. Wednesdays	40
13 P 02638	Medicine PM 45—Gastroenterology [108]	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	30	Clinical case work Lecture or panel	4/16/56	C; 1 wk.	75
13 P 02789	Gastroscopy [7, 59]	Greenpoint Hospital Brooklyn, N. Y.	R	G	15	Lecture or panel Demonstration	4/56	I; 2½ hr. weekly for 6 wk. Thursdays	30
13 P 02958	Gastroscopy DM1066 [8]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	S	Unknown	Clinical case work	Anytime	Specially arranged	200
13 P 02959	Gastroscopy (Advanced) DM1067	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	S	20	Small group discussion Lecture or panel	Anytime	Specially arranged	200
13 P 02963	Gastroenterology DM1106	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	B	Unknown	Small group discussion Lecture or panel	Fall and Spring	Specially arranged	100
13 P 03144	Clinical Gastroenterology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	60	Laboratory work Clinical case work	Arranged	Specially arranged	75
13 P 03171	Clinical Gastroenterology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	60	Laboratory work Clinical case work	Arranged	Specially arranged for 4 wk.	75
13 P 03636	Massive Gastroduodenal Bleeding [262]	Academy of Medicine of Cleveland and Cuyahoga County 2909 Adelbert Rd., Cleveland 6	S	B	3	Lecture or panel	1/20/56	C; 1 day	Nil
13 P 04109	Gastroenterology [51, 6]	University of Tennessee College of Medicine 874 Union Ave., Memphis, Tenn.	R	G	23	Clinical case work Small group discussion	3/30/56	C; 2 days	50
		14. GENERAL MEDICINE							
14 P 01013	Black Belt Postgraduate Seminar [60]	Black Belt Postgraduate Seminar Society Selma, Ala.	R	G	3	Lecture or panel	9/55	C; 1 day	Nil
14 P 01017	West Alabama Postgraduate Seminar [60]	West Alabama Postgraduate Seminar Society Winfield, Ala.	R	G	3	Lecture or panel	10/55	C; 1 day	Nil
14 P 01014	Black Belt Postgraduate Seminar [60]	Black Belt Postgraduate Seminar Society Selma, Ala.	R	G	3	Lecture or panel	11/55	C; 1 day	Nil
14 P 01012	Alabama Academy of General Practice Seminar [60]	Medical College of Alabama 1919 S. Seventh Ave., Birmingham, Ala.	R	G	10	Lecture or panel Demonstration	1/18/56	Specially arranged	Nil
14 P 01002	Alabama Academy of General Practice Postgraduate Seminar [60]	Medical College of Alabama 619 S. 19th St., Birmingham, Ala.	R	G	16	Clinical case work	1/56	C; 2 wk.	Nil
14 P 01015	Black Belt Postgraduate Seminar [60]	Black Belt Postgraduate Seminar Society Selma, Ala.	R	G	3	Lecture or panel	2/56	C; 1 day	Nil

References will be found on pages 1128-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		14. GENERAL MEDICINE—Continued							
14 P 01018	West Alabama Postgraduate Seminar [44]	West Alabama Postgraduate Seminar Society Winfield, Ala.	R	G	3	Lecture or panel	2/56	C; 1 day	Nil
14 P 01024	West Alabama Postgraduate Seminar [60]	West Alabama Postgraduate Seminar Society Winfield, Ala.	R	G	3	Lecture or panel	4/56	C; 1 day	Nil
14 P 01016	Black Belt Postgraduate Seminar [60]	Black Belt Postgraduate Seminar Society Selma, Ala.	R	G	3	Lecture or panel	5/56	C; 1 day	Nil
14 P 01025	West Alabama Postgraduate Seminar [60]	West Alabama Postgraduate Seminar Society Winfield, Ala.	R	G	3	Lecture or panel	6/56	C; 1 day	Nil
14 P 01011	Alabama Academy of General Practice Seminar [60]	Medical College of Alabama 1919 S. Seventh Ave., Birmingham, Ala.	R	G	10	Lecture or panel Demonstration	8/17/56	Specially arranged	Nil
14 P 01003	Alabama Academy of General Practice Postgraduate Seminar [60]	Medical College of Alabama 619 S. 19th St., Birmingham, Ala.	R	G	16	Clinical case work	8/56	C; 2 wk.	Nil
14 P 01005	John A. Andrew Clinical Course	John A. Andrew Memorial Hospital Tuskegee Inst. Makon, Ala.	R	B	28	Clinical case work Lecture or panel	Unknown	C; 4 days	15
14 P 01148	Saint John's Hospital Postgraduate Assembly [61]	Saint John's Hospital 1328 22nd St., Santa Monica, Calif.	R	B	28	Lecture or panel Demonstration	9/12/55	C; 3 wk.	10
14 P 01166	Stockton Postgraduate Study Club [206, 207]	Stockton State Hospital North California St., Stockton, Calif.	R	G	12	Lecture or panel	9/15/55	I; 1½ hr. weekly for 2½ mo. Thursdays	10
14 P 01151	Annual Post-Graduate Assembly [62]	San Diego County General Hospital North End of Front Street, San Diego 3, Calif.	S	B	48	Lecture or panel	9/21/55	C; 2 wk.	Nil
14 P 01109	Postgraduate Preceptorship in Cardiology for the General Practitioner [63]	Various out-patient clinics in Los Angeles	S	G	20	Clinical case work Small group discussion	9/55	I; Approximately 2 hr. weekly for 12 wk. varying days	15
14 P 01087	General Medicine [19]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	G	18	Small group discussion Lecture or panel	10/ 4/55	I; 1½ hr. weekly for 12 wk. Tuesdays	50
14 P 04534	California North Coast Circuit Lecture Course [5, 173, 216]	In district	R	B	16	Lecture or panel	10/17/55	I; 2 hr. weekly for 8 wk.	25
14 P 04536	California Sacramento Valley Circuit Lecture Course [5, 173, 216]	In district	R	B	16	Lecture or panel	10/17/55	I; 2 hr. weekly for 8 wk.	25
14 P 01093	Medical Clinics [64]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	G	18	Clinical case work Small group discussion	1/ 3/56	I; 1 hr. weekly for 18 wk. Tuesdays	50
14 P 04537	California Southern Counties Medical and Surgical Institute [54, 5, 216]	In district	R	B	Unknown	Lecture or panel	1/19/56	C; 2 days	10
14 P 01058	California West Coast Counties Medical and Surgical Institute [54, 5, 216]	In district	R	B	Unknown	Lecture or panel	3/ 1/56	C; 2 days	10
14 P 01059	California North Coast Counties Medical and Surgical Institute [54, 5, 216]	In district	R	B	Unknown	Lecture or panel	4/ 5/56	C; 2 days	10
14 P 01060	California San Joaquin Valley Counties Medical and Surgical Institute [5, 54, 216]	In district	R	B	Unknown	Lecture or panel	4/19/56	C; 2 days	10
14 P 01061	California Sacramento Valley Counties Medical and Surgical Institute [5, 54, 216]	In district	R	B	Unknown	Lecture or panel	6/13/56	C; 2 days	10
14 P 01132	General Medicine [178]	Mercy Hospital Hillcrest Drive, San Diego, Calif.	R	B	50	Lecture or panel	7/56	I; 1 hr. weekly for 50 wk. Saturdays	Nil
14 P 01257	Clinical Pharmacology and Therapeutics [65]	University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver 20	R	B	24	Lecture or panel Demonstration	11/ 7/55	C; 3 days	30
14 P 01258	Electrolyte and Fluid Balance	University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver 20	R	B	20	Lecture or panel Demonstration	11/10/55	C; 3 days	30

14 P 01259	General Practice Review [66]	University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver 20	R	G	45	Lecture or panel Demonstration	1/16/56	C; 6 days	60
14 P 04541	Midwinter Postgraduate Clinics	Colorado State Medical Society 885 Republic Bldg., Denver 2	R	G	Unknown	Clinical case work Lecture or panel	2/14/56	C; 3 days	5
14 P 01264	Seventh Annual Colorado Intern-Resident Clinics	University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver 20	S	B	16	Lecture or panel	6/56	C; 2 days	Nil
14 P 01359	Differential Diagnosis and Therapeutics for General Practitioners [282, 283, 5, 284, 285]	Wilmington General Hospital Chestnut and Broom Streets, Wilmington, Del.	R	G	30	Small group discussion Lecture or panel	9/14/55	I; 3 hr. weekly for 10 wk. Wednesdays	50
14 P 01353	General Medicine [326, 5]	George Washington University Hospital 901 23rd St., N. W., Washington 7, D. C.	R	B	30	Lecture or panel	3/19/56	C; 5 days	75
14 P 01382	Recent Advances in Diagnosis and Therapy [259]	Mt. Sinai Hospital of Greater Miami 4300 Alton Rd., Miami Beach, Fla.	S	B	24	Lecture or panel	5/19/55	C; 4 days	20
14 P 01375	Not determined [5, 304, 383]	Hotel George Washington Jacksonville 4, Fla.	S	S	14	Lecture or panel	6/21/56	C; 2½ days	25
14 P 01374	24th Annual Graduate Short Course [5, 392, 383]	Hotel George Washington Jacksonville 4, Fla.	R	G	30	Lecture or panel	6/25/56	C; 5 days	10
14 P 02117	Medicine for Today [301, 302, 5]	Mennonite Hospital Bloomington, Ill.	R	G	24	Lecture or panel	10/ 4/55	I; 2 hr. weekly for 12 wk. Thursdays	40
14 P 02113	Medicine for Today [301, 302, 5]	St. Joseph Hospital Joliet, Ill.	R	G	24	Lecture or panel	10/ 4/55	I; 2 hr. weekly for 12 wk. Tuesdays	40
14 P 02114	Medicine for Today [301, 302, 5]	Hinsdale Sanatarium and Hospital Hinsdale, Ill.	R	G	24	Lecture or panel	10/ 5/55	I; 2 hr. weekly for 12 wk. Wednesdays	40
14 P 02115	Medicine for Today [301, 302, 5]	Englewood Hospital Chicago	R	G	24	Lecture or panel	10/ 5/55	I; 2 hr. weekly for 12 wk. Wednesdays	40
14 P 02111	Medicine for Today [301, 302, 5]	Illini Union Building 715 S. Wood St., Chicago 4	R	G	24	Lecture or panel	10/ 5/55	I; 2 hr. weekly for 12 wk. Wednesdays	40
14 P 02109	Medicine for Today [301, 302, 5]	Swedish Covenant Hospital Chicago	R	G	24	Lecture or panel	10/ 5/55	I; 2 hr. weekly for 12 wk. Wednesdays	40
14 P 02107	Medicine for Today [301, 302, 5]	St. Elizabeth Hospital Belleville, Ill.	R	G	24	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 12 wk. Thursdays	40
14 P 02120	Medicine for Today [301, 302, 5]	Burnham City Hospital Champaign, Ill.	R	G	24	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 12 wk. Thursdays	40
14 P 02112	Medicine for Today [301, 302, 5]	St. Elizabeth Hospital Danville, Ill.	R	G	24	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 12 wk. Thursdays	40
14 P 02106	Medicine for Today [301, 302, 5]	TB Sanatarium Edwardsville, Ill.	R	G	24	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 12 wk. Thursdays	40
14 P 02121	Medicine for Today [301, 302, 5]	St. Anthony Hospital Effingham, Ill.	R	G	24	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 12 wk. Thursdays	40
14 P 02110	Medicine for Today [301, 302, 5]	Community Hospital Geneva, Ill.	R	G	24	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 12 wk. Thursdays	40
14 P 02108	Medicine for Today [301, 302, 5]	Elks Club Herrin, Ill.	R	G	24	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 12 wk. Thursdays	40
14 P 02116	Medicine for Today [301, 302, 5]	Public Hospital Moline, Ill.	R	G	24	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 12 wk. Thursdays	40
14 P 02118	Medicine for Today [301, 302, 5]	St. Anthony Hospital Rockford, Ill.	R	G	24	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 12 wk. Thursdays	40
14 P 02119	Medicine for Today [301, 302, 5]	Memorial Hospital Elmhurst, Ill.	R	G	24	Lecture or panel	10/ 7/55	I; 2 hr. weekly for 12 wk. Fridays	40
14 P 01524	Clinical Conference [327]	Palmer House Chicago	R	B	30	Lecture or panel Demonstration	2/28/56	C; 4 days	5 to non-members
14 P 01828	Refresher Course for the General Physician [11]	State University of Iowa College of Medicine Iowa City	R	G	30	Small group discussion Lecture or panel	2/15/56	C; 4 days	40
14 P 01877	General Practice Postgraduate Course [5, 67, 68]	University of Kansas Medical Center 39th and Rainbow Blvd., Kansas City 12, Kan.	R	G	28	Lecture or panel Demonstration	10/55	I; 4 hr. every 4 wk. for 6 mo. Thursdays	10
14 P 01880	Circuit Type Postgraduate Course [5, 43, 69]	Hospital Salina, Kan.	R	B	33	Clinical case work Lecture or panel	11/29/55	I; 5½ hr. every 4 wk. for 3 mo. Tuesdays	30
14 P 01884	Circuit Type Postgraduate Course [5, 43, 69]	Hospital Concordia, Kan.	R	B	33	Clinical case work Lecture or panel	11/29/55	I; 5½ hr. every 4 wk. for 3 mo. Tuesdays	30
14 P 01881	Circuit Type Postgraduate Course [5, 43, 69]	Hospital Hutchinson, Kan.	R	B	33	Clinical case work Lecture or panel	11/30/55	I; 5½ hr. every 4 wk. for 3 mo. Wednesdays	30

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code[1] No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		14. GENERAL MEDICINE—Continued							
14 P 01885	Circuit Type Postgraduate Course [5, 43, 69]	Country Club Colby, Kan.	R	B	33	Clinical case work Lecture or panel	11/30/55	I; 5½ hr. every 4 wk. for 5 mo. Wednesdays	30
14 P 01882	Circuit Type Postgraduate Course [5, 43, 69]	Hospital Winfield, Kan.	R	B	33	Clinical case work Lecture or panel	12/ 1/55	I; 5½ hr. every 4 wk. for 5 mo. Thursdays	30
14 P 01886	Circuit Type Postgraduate Course [5, 43, 69]	Hospital Hays, Kan.	R	B	33	Clinical case work Lecture or panel	12/ 1/55	I; 5½ hr. every 4 wk. for 5 mo. Thursdays	30
14 P 01883	Circuit Type Postgraduate Course [5, 43, 69]	Hospital Parsons, Kan.	R	B	33	Clinical case work Lecture or panel	12/ 2/55	I; 5½ hr. every 4 wk. for 5 mo. Fridays	30
14 P 01887	Circuit Type Postgraduate Course [5, 43, 69]	Hospital Dodge City, Kan.	R	B	33	Clinical case work Lecture or panel	12/ 2/55	I; 5½ hr. every 4 wk. for 5 mo. Fridays	30
14 P 01888	Circuit Type Postgraduate Course [5, 43, 69]	Hospital Atchison, Kan.	R	B	33	Clinical case work Lecture or panel	12/ 6/55	I; 5½ hr. every 4 wk. for 5 mo. Tuesdays	30
14 P 01889	Circuit Type Postgraduate Course [5, 43, 69]	Hospital Topeka, Kan.	R	B	33	Clinical case work Lecture or panel	12/ 7/55	I; 5½ hr. every 4 wk. for 5 mo. Wednesdays	30
14 P 01890	Circuit Type Postgraduate Course [5, 43, 69]	Hospital Emporia, Kan.	R	B	33	Clinical case work Lecture or panel	12/ 8/55	I; 5½ hr. every 4 wk. for 5 mo. Thursdays	30
14 P 01910	New Orleans Graduate Medical Assembly [239]	Municipal Auditorium New Orleans	R	B	40	Lecture or panel Demonstration	2/27/56	C; 4 days	20
14 P 01944	Advances in Medicine and General Practice [295]	Doctors Hospital, Postgraduate Institute 2724 N. Charles St., Baltimore 18	R	G	18	Small group discussion Lecture or panel	10/ 7/55	I; 3 hr. weekly for 6 wk. Tuesdays, Fridays	5
14 P 02104	General Medicine [70, 4, 5]	St. Luke's Hospital New Bedford, Mass.	R	B	24	Lecture or panel	9/ 7/55	I; 2 hr. weekly for 12 wk. Wednesdays	48
14 P 02103	General Medicine [70, 181, 5]	Truesdale Hospital, St. Anne's Hospital, Union Hospital Fall River, Mass.	R	B	30	Lecture or panel	9/14/55	I; 3 hr. weekly for 10 wk. Wednesdays	40
14 P 02097	Modern Concepts of Diagnosis and Therapy of Everyday Practice [5, 70, 71]	Lemuel Shattuck Hospital Boston	R	B	50	Lecture or panel	9/21/55	I; 2 hr. weekly for 25 wk. Wednesdays	100
14 P 02101	Postgraduate Medicine [70, 4, 5]	St. Luke's Hospital Pittsfield, Mass.	R	B	20	Lecture or panel	9/28/55	I; 2 hr. weekly for 10 wk. Wednesdays	40
14 P 02102	General Medicine [70, 180, 5]	Norfolk County Hospital Braintree, Mass.	R	B	24	Lecture or panel	10/ 5/55	I; 2 hr. weekly for 12 wk. Wednesdays	48
14 P 02098	Modern Concepts of Diagnosis and Therapy of Everyday Practice [5, 72, 70]	Holyoke Soldiers Home Holyoke, Mass.	R	B	20	Lecture or panel	10/14/55	I; 2 hr. weekly for 10 wk. Fridays	40
14 P 02099	General Medicine [5, 70, 4]	Burbank Hospital Fitchburg, Mass.	R	B	18	Lecture or panel	11/55	I; 3 hr. monthly for 6 mo. Wednesdays	36
14 P 02100	General Medicine [5, 4, 70]	Salem Hospital Salem, Mass.	R	B	24	Lecture or panel	1/ 4/56	I; 2 hr. weekly for 12 wk. Wednesdays	48
14 P 02175	Extramural Postgraduate Course [215, 41]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Alpena, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02176	Extramural Postgraduate Course [215, 52]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Bay City, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02177	Extramural Postgraduate Course [215, 27]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Cadillac, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02147	Extramural Postgraduate Course [215, 20]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Calumet, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil

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14 P 02183	Extramural Postgraduate Course 215, 20	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Escanaba, Mich.	R	G	3	Clinic	Fall, 1955	C; 3 hr.	Nil
14 P 02178	Extramural Postgraduate Course 215, 85	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Flint, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02185	Extramural Postgraduate Course 215, 20	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Iron Mountain, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02187	Extramural Postgraduate Course 215, 41	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Ironwood, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02179	Extramural Postgraduate Course 215, 85	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Jackson, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02180	Extramural Postgraduate Course 215, 85	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Lansing, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02188	Extramural Postgraduate Course 215, 27	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Marquette, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02184	Extramural Postgraduate Course 215, 20	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Menominee, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02181	Extramural Postgraduate Course 215, 45	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Muskegon, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02182	Extramural Postgraduate Course 215, 52	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Port Huron, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02186	Extramural Postgraduate Course 215, 20	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Sault Ste. Marie, Mich.	R	G	3	Lecture or panel	Fall, 1955	C; 3 hr.	Nil
14 P 02144	General Medicine 221, 8	The Grace Hospital 4160 John Rd., Detroit 1	R	G	35	Clinical case work	10/ 1/55	I; 1¼ hr. weekly for 28 wk. Tuesdays	30
14 P 02145	Ninth Annual Fall Postgraduate Clinic 255, 257	Sheraton-Cadillac Hotel Washington Boulevard at Michigan Avenue, Detroit	R	G	12	Lecture or panel	11/ 9/55	C; 2 days	Nil
14 P 02146	Third Symposium on Office Procedures for the General Physician 255, 256	Sheraton-Cadillac Hotel Washington Boulevard at Michigan Avenue, Detroit	R	G	5	Lecture or panel	2/ 1/56	C; 1 day	Nil
14 P 04444	Extramural Postgraduate Course 215, 41	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Alpena, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 04445	Extramural Postgraduate Course 215, 52	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Bay City, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 02435	Extramural Postgraduate Course 215, 27	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Cadillac, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 02418	Extramural Postgraduate Course 215, 20	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Calumet, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 02350	Extramural Postgraduate Course 215, 20	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Escanaba, Mich.	R	G	3	Clinic	Spring, 1956	C; 3 hr.	Nil

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		14. GENERAL MEDICINE—Continued							
14 P 04285	Extramural Postgraduate Course [215, 85]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Flint, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 04316	Extramural Postgraduate Course [215, 20]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Iron Mountain, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 04318	Extramural Postgraduate Course [215, 41]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Ironwood, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 04286	Extramural Postgraduate Course [215, 85]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Jackson, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 02089	Extramural Postgraduate Course [215, 85]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Lansing, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 02417	Extramural Postgraduate Course [215, 27]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Marquette, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 04315	Extramural Postgraduate Course [215, 20]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Menominee, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 02349	Extramural Postgraduate Course [215, 45]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Muskegon, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 02090	Extramural Postgraduate Course [215, 52]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Port Huron, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 04317	Extramural Postgraduate Course [215, 20]	Department of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich. At: Sault Ste. Marie, Mich.	R	G	3	Lecture or panel	Spring, 1956	C; 3 hr.	Nil
14 P 02170	Recent Advances in Therapeutics [52]	Dept. of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich.	R	B	30	Lecture or panel Demonstration	4/56	C; 5 days	50
14 P 02289	Annual Fall Refresher [270]	Radisson Hotel Seventh Street South, Minneapolis	R	G	7	Lecture or panel	10/19/55	C; 1 day	Nil
14 P 02305	Techniques in General Practice [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Small group discussion Demonstration	10/20/55	C; 3 days	25
14 P 01778	General Medicine [73, 74]	Hotel Jefferson St. Louis	R	G	17	Lecture or panel	9/28/55	C; 3 days	5
14 P 02371	Missouri Academy of General Practice Annual Meeting [277, 275]	Governor Hotel Jefferson City, Mo.	R	G	10	Lecture or panel	10/26/55	C; 2 days	Nil
14 P 02370	Annual Fall Clinical Conference [5, 75]	Kansas City Southwest Clinical Society 3036 Gillham Road, Kansas City 8, Mo.	R	B	24	Lecture or panel	10/55	C; 4 days	20
14 P 02372	Missouri State Medical Association Annual Meeting [276]	Jefferson Hotel St. Louis	R	B	16	Clinical case work Lecture or panel	4/ 9/56	C; 3 days	Nil
14 P 02383	General Practice Meetings [251]	University of Missouri School of Medicine Columbia, Mo.	R	B	10	Lecture or panel	Unknown	I; 2 hr. monthly for 5 mo. Thursdays	Unknown
14 P 02384	Postgraduate Course in Medicine and Surgery [252, 251]	Burge Hospital Springfield, Mo.	R	B	24	Lecture or panel	Unknown	I; 4 hr. monthly for 6 mo. Wednesdays	Unknown

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14 P 02406	23rd Annual Assembly of the Omaha Mid-West Clinical Society	Omaha Mid-West Clinical Society 1031 Medical Arts Bldg., Omaha	R	B	39	Lecture or panel Exhibits	10/24/55	C; 4 days	7.50
14 P 02432	Visiting Chiefs Pro Tem [76]	Atlantic City Hospital 26 S. Ohio Ave., Atlantic City, N. J.	R	B	480	Clinical case work Lecture or panel	1/ 3/56	I; 2 hr. daily for 5 days weekly for 48 wk.	Nil
14 P 02506	Recent Advances in Clinical Practice [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	39	Clinical case work Small group discussion	9/12/55	C; 1 wk.	75
14 P 02895	Postgraduate Radio Program of New York Academy of Medicine [271]	Over New York radio station WNYS-FM New York	R	G	52	Lecture or panel	9/55	I; 1 hr. weekly for 52 wk. Thursdays	Nil
14 P 02501	Medicine [5]	State University of New York, Upstate Medical Center 766 Irving Ave., Syracuse, N. Y.	R	B	28	Lecture or panel Demonstration	10/ 6/55	I; 4 hr. weekly for 7 wk. Thursdays	15
14 P 02548	Hypertension and Nephritis [7, 8]	Jewish Hospital Brooklyn, N. Y.	R	G	8	Lecture or panel	10/55	I; 1 hr. weekly for 8 wk. Wednesdays	20
14 P 02804	Monthly Panel Meetings on Therapeutics for the General Physician	The New York Academy of Medicine 2 E. 103rd St., New York 29	R	G	9	Panel	11/ 4/55	I; 1½ hr. monthly for 6 mo. Fridays	Nil
14 P 02478	Recent Advances in Clinical Medicine	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	R	B	20	Small group discussion Lecture or panel	1/12/56	C; 2½ days	25
14 P 02478	Postgraduate Clinical Seminar	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	R	B	6	Small group discussion Lecture or panel	1/12/56	C; 1 day	10
14 P 02788	Hypertension and Nephritis [7, 8]	Jewish Hospital Brooklyn, N. Y.	R	G	8	Lecture or panel	4/56	I; 1 hr. weekly for 8 wk. Wednesdays	20
14 P 03320	5430-A Review Course in General Medicine [76]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	70	Clinical case work Lecture or panel	7/11/56	C; 10 days	100
14 P 02900	Physical Diagnosis DM1076	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	20	Clinical case work Small group discussion	7/56 or 8/56	Specially arranged	100
14 P 03139	General Medicine	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	24	Laboratory work Clinical case work	Arranged	Specially arranged	100
14 P 03595	Postgraduate Course in General Medicine [5, 77]	Grace Hospital Morganton, N. C.	R	B	18	Lecture or panel	9/21/55	I; 3 hr. weekly for 6 wk. Wednesdays	20
14 P 03596	Postgraduate Course in General Medicine [5, 77]	Memorial Mission Hospital Asheville, N. C.	R	B	18	Lecture or panel	9/22/55	I; 3 hr. weekly for 6 wk. Thursdays	20
14 P 03597	Postgraduate Course in General Medicine [5, 77]	North Carolina Memorial Hospital Chapel Hill, N. C.	R	B	12	Lecture or panel	10/ 5/55	I; 1½ hr. weekly for 8 wk. Wednesdays	10
14 P 03568	Postgraduate Medical Cruise [281]	M. S. "Stockholm" Sponsored by Duke University School of Medicine Durham, N. C.	S	B	25	Lecture or panel	11/28/55	C; 12 days	Cost of the cruise
14 P 03598	Postgraduate Course in General Medicine [5, 77]	Roanoke-Chowan Hospital Ahoskie, N. C. Chowan Hospital Edenton, N. C. Virginia Dare Hotel Elizabeth City, N. C.	R	B	18	Lecture or panel	1/11/56	I; 3 hr. weekly for 6 wk. Wednesdays	20
14 P 03599	Postgraduate Course in General Medicine [5, 77]	N. C. Memorial Hospital Chapel Hill, N. C.	R	B	12	Lecture or panel	2/15/56	I; 1½ hr. weekly for 8 wk. Wednesdays	10
14 P 03586	Audio-Visual Postgraduate Instruction Course (During Pinehurst Convention)	Annual Meeting, Medical Society of North Carolina Raleigh, N. C.	S	G	9	Audiovisual	5/ 1/56	Specially arranged	Nil
14 P 03566	Duke Medical Postgraduate Course [150, 8]	Duke University School of Medicine Durham, N. C.	R	G	32	Clinical case work Small group discussion	6/18/56	C; 4 days	25
14 P 03634	The Medical Management of the Problem Drinker [262]	Academy of Medicine of Cleveland and Cuyahoga County 2909 Adelbert Rd., Cleveland 6	S	B	3	Lecture or panel	10/21/55	C; 1 day	Nil
14 P 03802	Symposium on Therapeutics [264]	Four selected centers in Western Oregon	R	B	5	Lecture or panel Discussion	3/56	C; 1 day	Nil
14 P 03883	Postgraduate Telephone Teaching Program [280]	County society meeting room to be received via telephone in Pennsylvania	R	B	1	Lecture or panel	10/55	.....	Nil
14 P 03884	Postgraduate Telephone Teaching Program [280]	County society meeting room to be received via telephone in Pennsylvania	R	B	1	Lecture or panel	11/55	.....	Nil

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		14. GENERAL MEDICINE—Continued							
14 P 03869	Postgraduate Hospital Training Course [286, 287, 5]	To be given at six or seven Pennsylvania hospitals	S	G	90	Clinical case work Small group discussion	10/55	I; 6 hr. weekly for 15 wk. Varying days	50
14 P 03885	Postgraduate Telephone Teaching Program [286]	County society meeting room to be received via telephone in Pennsylvania	R	B	1	Lecture or panel	12/55	.....	Nil
14 P 03886	Postgraduate Telephone Teaching Program [286]	County society meeting room to be received via telephone in Pennsylvania	R	B	1	Lecture or panel	1/56	.....	Nil
14 P 02434	Postgraduate Telephone Teaching Program [286]	County society meeting room to be received via telephone in Pennsylvania	R	B	1	Lecture or panel	2/56	.....	Nil
14 P 03993	Postgraduate Seminar [285]	Medical College of South Carolina 16 Lucas St., Charleston, S. C.	R	G	25	Lecture or panel Demonstration	11/ 1/55	C; 3 days	5
14 P 03998	Postgraduate Seminar [275]	Medical College of South Carolina Charleston, S. C.	R	B	16	Lecture or panel	11/55	C; 2 days	Nil
14 P 04007	Tennessee Valley Medical Assembly [80]	Read House Hotel West Ninth Street, Chattanooga, Tenn.	R	B	10	Lecture or panel	10/ 3/55	C; 2 days	15
14 P 04172	Clinical Seminars [206]	The University of Texas Postgraduate School of Medicine, San Angelo Division 219 S. Magdalen, San Angelo, Texas	R	B	18	Lecture or panel	9/11/55	I; 2 hr. monthly for 9 mo. Sundays	18
14 P 04152	Gall Bladder and Heart Disease [5, 217, 218]	Location varies on three year cycle from Texarkana to Shreveport to an east Texas city (Longview)	R	B	12	Lecture or panel	9/28/55	C; 2 days	5
14 P 04128	International Medical Assembly of Southwest Texas [258]	Municipal Auditorium San Antonio, Texas	R	B	18	Lecture or panel	1/23/56	C; 2½ days	20
14 P 04578	Prairie View A and M College Post-Graduate Medical Assembly [215]	Prairie View A. and M. College Prairie View, Texas	R	G	38	Clinical case work	3/ 5/56	C; 5 days	Nil
14 P 04486	Dallas Southern Clinical Society Spring Clinical Conference [5]	Dallas Southern Clinical Society 433 Medical Arts Bldg., Dallas, Texas	S	B	27	Lecture or panel	3/12/56	C; 3 days	25
14 P 04126	Postgraduate Medical Assembly of South Texas [217, 218]	Shamrock Hotel Houston, Texas	R	B	42	Lecture or panel	7/16/56	C; 3 days	20
14 P 04247	May Clinical Meeting	University of Vermont College of Medicine Burlington, Vt.	R	B	5	Lecture or panel	5/ 1/56	C; 1 day	Nil
14 P 04271	Conferences on General Medicine	University of Virginia School of Medicine Charlottesville, Va.	R	G	8	Clinical case work Lecture or panel	Unknown	Specially arranged	Nil
14 P 04289	Fluid and Electrolyte Balance [27]	University of Washington School of Medicine Health Sciences Building, Seattle	R	B	26	Laboratory work Clinical case work	9/14/55	C; 3 days	45
14 P 04291	General Practice Clinic Day	University of Washington School of Medicine Health Sciences Building, Seattle	R	G	6	Lecture or panel	10/21/55	C; 1 day	Nil
14 P 04329	International Medical Assembly [260]	Interstate Postgraduate Medical Association of North America Gay Building, Madison 3, Wis.	R	G	28	Clinical case work Lecture or panel	11/14/55	C; 4 days	10
14 P 03987	Jackson Clinic Postgraduate Meeting	Tower of Health Methodist Hospital 309 W. Washington Ave., Madison, Wis.	S	G	4	Clinical case work	Unknown	C; 1 day	Nil
14 P 04459	Postgraduate Refresher Course	University of Toronto Medical Alumni Association Toronto 5, Canada	R	B	12	Clinical case work Lecture or panel	10/13/55	C; 2 days	Nil
14 P 04418	Refresher Course for General Practitioners [45]	Vancouver General Hospital Vancouver, British Columbia, Canada	R	G	18	Lecture or panel Theatre clinics	11/16/55	C; 3 days	15
14 P 04469	Refresher Course for General Practitioners [5]	Royal Victoria Hospital 687 Pine Ave., W., Montreal 2, Canada	R	G	5	Lecture or panel Demonstration	11/21/55	Specially arranged	50
14 P 04451	Postgraduate Refresher Course in General Medicine [282]	Ottawa Civic Hospital Carling Avenue, Ottawa, Ontario, Canada	R	B	18	Lecture or panel	5/56	C; 3 days	15
14 P 04406	Annual Refresher Course [5]	University of Alberta Faculty of Medicine Edmonton, Alberta, Canada	R	B	40	Clinical case work Lecture or panel	5/56	C; 5 wk.	10

15. GERIATRICS

15 P 01350	Geriatrics [320, 5]	George Washington University Hospital 901 23rd St., N. W., Washington 7, D. C.	R	B	30	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 17 wk. Thursdays	50
15 P 01354	Geriatrics [320, 5]	George Washington University Hospital 901 23rd St., N. W., Washington 7, D. C.	R	B	30	Lecture or panel	3/26/56	C; 5 days	75
15 P 02896	Problems of Aging [81]	The New York Academy of Medicine 2 E. 103rd St., New York 29	R	B	54	Clinical case work Lecture and panel	10/10/55	C; 10 days	10
15 P 02430	Graduate Symposium on Geriatric Medicine [82]	Hotel Roosevelt New York	S	B	16	Lecture or panel	11/30/55	C; 2 days	Nil
15 P 03315	5426-A Geriatrics [8]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	21	Lecture or panel Demonstration	1/25/56	C; 3 days	30

16. GYNECOLOGY

16 P 01116	Gynecology [5, 83]	Los Angeles Graduate School of Medicine 1858 W. Washington Blvd., Los Angeles	R	B	24	Small group discussion Lecture or panel	9/20/55	I; 2 hr. weekly for 12 wk. Tuesdays	60
16 P 01206	Gynecological and Obstetrical Conference [84]	University of California Extension 540 Powell St., San Francisco 22	R	B	12	Lecture or panel	10/20/55	C; 2 days	60
16 P 01066	Management of Infertility [64]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	12	Lecture or panel Demonstration	1/ 5/56	I; 1½ hr. weekly for 8 wk. Thursdays	30
16 P 01141	Los Angeles Obstetrical and Gynecological Forum [186]	Ambassador Hotel 3400 Wilshire Blvd., Los Angeles 57	S	B	11	Lecture or panel	2/11/56	C; 2 days	20
16 P 01142	Obstetrical and Gynecological Assembly of Southern California [185]	Ambassador Hotel 3400 Wilshire Blvd., Los Angeles 57	S	S	23	Lecture or panel	2/13/56	C; 5 days	85
16 P 01117	Gynecology [5, 83]	Los Angeles Graduate School of Medicine 1858 W. Washington Blvd., Los Angeles	R	B	24	Small group discussion Lecture or panel	3/19/56	I; 2 hr. weekly for 12 wk. Tuesdays	60
16 P 01100	Gynecology [19]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	G	10	Lecture or panel	3/21/56	I; 1 hr. weekly for 10 wk. Wednesdays	30
16 P 01352	Obstetrics and Gynecology [320, 5]	George Washington University Hospital 901 23rd St., N. W., Washington 7, D. C.	R	B	30	Lecture or panel	3/12/56	C; 5 days	75
16 P 04568	Obstetrics and Gynecology Seminar [5, 85]	Walter Reed Army Medical Center Washington 12, D. C.	R	B	40	Clinical case work Lecture or panel	5/21/56	C; 5 days	Nil
16 P 01628	Three-Week Combined Course in Gynecology and Obstetrics [5, 203]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	100	Laboratory work Clinical case work	9/12/55	C; 3 wk.	225
16 P 04607	Practical and Didactic Course in Office Gynecology [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	16	Laboratory work Clinical case work	10/ 5/55	I; 4 hr. weekly for 4 wk. Wednesdays	100
16 P 04614	Gynecologic Surgery [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	10/ 5/55	I; 4 hr. weekly for 5 wk. Wednesdays	100
16 P 01526	Basic Principles and Recent Developments in Obstetrics and Gynecology [227, 52, 5]	Knickerbocker Hotel 163 E. Walton Place, Chicago	R	B	40	Lecture or panel	10/24/55	C; 1 wk.	75
16 P 01492	Obstetrical and Gynecological Surgical Care	American College of Surgeons (Clinical Congress) 40 E. Erie St., Chicago 11	R	S	15	Lecture or panel	10/31/55	I; 3 hr. daily for 5 days	5
16 P 01618	Vaginal Approach to Pelvic Surgery [5, 120]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	11/ 7/55	C; 1 wk.	100
16 P 04608	Practical and Didactic Course in Office Gynecology [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	16	Laboratory work Clinical case work	11/ 9/55	I; 4 hr. weekly for 4 wk. Wednesdays	100
16 P 04615	Gynecologic Surgery [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	11/ 9/55	I; 4 hr. weekly for 5 wk. Wednesdays	100
16 P 01613	Course 2—Gynecology [5, 83]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	94	Laboratory work Clinical case work	11/28/55	C; 2 wk.	150

References will be found on pages 1129-1131.

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		16. GYNECOLOGY—Continued							
16 P 01619	Vaginal Approach to Pelvic Surgery [5, 130]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	12/12/55	C; 1 wk.	100
16 P 04611	Practical and Didactic Course in Office Gynecology [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	16	Laboratory work Clinical case work	1/ 4/56	I; 4 hr. weekly for 4 wk. Wednesdays	100
16 P 04616	Gynecologic Surgery [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	1/ 4/56	I; 4 hr. weekly for 5 wk. Wednesdays	100
16 P 01620	Vaginal Approach to Pelvic Surgery [5, 130]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	2/ 6/56	C; 1 wk.	100
16 P 01614	Course 2—Gynecology [5, 82]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	94	Laboratory work Clinical case work	2/13/56	C; 2 wk.	150
16 P 01621	Vaginal Approach to Pelvic Surgery [5, 130]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	3/ 5/56	C; 1 wk.	100
16 P 04612	Practical and Didactic Course in Office Gynecology [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	16	Laboratory work Clinical case work	3/ 7/56	I; 4 hr. weekly for 4 wk. Wednesdays	100
16 P 04617	Gynecologic Surgery [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	3/ 7/56	I; 4 hr. weekly for 5 wk. Wednesdays	100
16 P 01615	Course 2—Gynecology [5, 82]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	94	Laboratory work Clinical case work	3/12/56	C; 2 wk.	150
16 P 01616	Course 2—Gynecology [5, 82]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	94	Laboratory work Clinical case work	4/16/56	C; 2 wk.	150
16 P 04618	Gynecologic Surgery [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	5/ 2/56	I; 4 hr. weekly for 5 wk. Wednesdays	100
16 P 04613	Practical and Didactic Course in Office Gynecology [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	16	Laboratory work Clinical case work	5/ 2/56	I; 4 hr. weekly for 4 wk. Wednesdays	100
16 P 01622	Vaginal Approach to Pelvic Surgery [5, 130]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	5/ 7/56	C; 1 wk.	100
16 P 01623	Vaginal Approach to Pelvic Surgery [5, 130]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	6/ 4/56	C; 1 wk.	100
16 P 01617	Course 2—Gynecology [5, 82]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	94	Laboratory work Clinical case work	6/11/56	C; 2 wk.	150
16 P 01825	Obstetrics and Gynecology Postgraduate Course [204]	State University of Iowa College of Medicine University Hospital Iowa City	R	B	11	Clinical case work Small group discussion	11/ 4/55	C; 1½ days	15
16 P 01862	Gynecology [86]	University of Kansas Medical Center 39th and Rainbow Blvd., Kansas City 12, Kan.	S	B	18	Lecture or panel	11/ 7/55	C; 3 days	35
16 P 02027	Gynecology 2 [21, 210]	Free Hospital for Women 245 Pond Ave., Boston	R	B	120	Clinical case work Small group discussion	9/ 1/55	C; 4 wk.	150
16 P 02031	Gynecology 3 [52, 210]	Massachusetts General Hospital Fruit Street, Boston	R	B	78	Laboratory work Lecture or panel	9/12/55	C; 2 wk.	150
16 P 02006	Pathology of Obstetrics and Gynecology [112, 210]	Free Hospital for Women Cumberland Avenue, Brookline, Mass.	S	S	120	Laboratory work Lecture or panel	1/ 5/56	I; 6 hr. weekly for 5 mo. Thursdays	150
16 P 02028	Gynecology 2 [21, 210]	Free Hospital for Women 245 Pond Ave., Boston	R	B	120	Clinical case work Small group discussion	6/ 1/56	C; 4 wk.	150
16 P 02029	Gynecology 2 [21, 210]	Free Hospital for Women 245 Pond Ave., Boston	R	B	120	Clinical case work Small group discussion	7/ 2/56	C; 4 wk.	150

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16 P 02080	Gynecology 2 [21, 210]	Free Hospital for Women 245 Pond Ave., Boston	R	B	120	Clinical case work Small group discussion	8/ 1/56	C; 4 wk.	150
16 P 02164	Gynecology [21]	Dept. of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich.	R	B	20	Lecture or panel Demonstration	2/56	C; 3½ days	50
16 P 02321	Gynecology for Specialists [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	S	16	Lecture or panel	4/12/56	C; 3 days	25
16 P 03342	734-A Gynecology [87]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	320	Laboratory work Lecture or panel	9/ 6/55	C; 16 wk.	250
16 P 03331	560-A Diagnosis and Therapy of Malignant Neoplasms of the Female Genital Tract [88]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	288	Laboratory work Clinical case work	9/19/55	I; 4 hr. twice weekly for 9 mo. Mondays, Thursdays	300
16 P 03607	Gynecology [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	14	Clinical case work Small group discussion	9/28/55	C; 2 days	30
16 P 03137	Gynecology and Obstetrics Including Manikin Obstetrics and Operative Gynecology on the Cadaver	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	400	Laboratory work Clinical case work	10/ 3/55	C; 8 wk.	250
16 P 03337	567-A Gynecology and Endocrinology [89]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	42	Laboratory work Clinical case work	10/ 3/55	C; 6 days	125
16 P 03338	568-A Gynecological Cytology [87]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	32	Laboratory work Lecture or panel	10/ 4/55	I; 4 hr. weekly for 8 wk. Tuesdays, Thursdays	100
16 P 03334	566-A Culdoscopy [90]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	6	Clinical case work Didactic presentations	11/28/55	I; 2 hr. 3 times weekly for 1 wk. Mondays; Wednesdays, Fridays	50
16 P 03335	566-B Culdoscopy [90]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	6	Clinical case work Didactic presentations	1/30/56	I; 2 hr. 3 times weekly for 1 wk. Mondays; Wednesdays, Fridays	50
16 P 03333	565-A Electrical Modalities in Gynecology (Specialists) [91]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	20	Clinical case work	2/ 6/56	I; 2 hr. weekly for 5 wk. Mondays, Fridays	75
16 P 03339	569-A Surgical Anatomy as Applied to Gynecology [87]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	18	Dissection Lantern slides	2/14/56	I; 1½ hr. 3 times weekly for 4 wk. Tuesdays, Thursdays, Saturdays	175
16 P 03138	Gynecology and Obstetrics Including Manikin Obstetrics and Operative Gynecology on the Cadaver	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	400	Laboratory work Clinical case work	4/ 2/56	C; 8 wk.	250
16 P 03508	Postgraduate Course in Gynecology for General Practitioners [5, 6]	State University of New York, Upstate Medical Center 766 Irving Ave., Syracuse, N. Y.	S	G	33	Clinical case work Small group discussion	4/23/56	C; 5½ days	25
16 P 03336	566-C Culdoscopy [90]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	6	Clinical case work Didactic presentations	4/30/56	I; 2 hr. 3 times weekly for 1 wk. Mondays; Wednesdays, Fridays	50
16 P 03109	Culdoscopy	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	6	Laboratory work Clinical case work	Arranged	Specially arranged	100
16 P 03133	Clinical Gynecology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	240	Laboratory work Clinical case work	Arranged	Specially arranged	75
16 P 03135	Clinical and Operative (Cadaver) Gynecology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	260	Laboratory work Clinical case work	Arranged	Specially arranged	175
16 P 04101	Office Gynecology [51, 5]	University of Tennessee College of Medicine 874 Union Ave., Memphis, Tenn.	R	G	23	Clinical case work Small group discussion	9/ 7/55	C; 3 days	50
16 P 04151	Genito Urinary Diseases [5, 217, 218]	Location varies on three year cycle from Texarkana to Shreveport to an east Texas city (Longview)	R	B	12	Lecture or panel	9/28/55	C; 2 days	5
16 P 04292	Obstetrics and Gynecology	University of Washington School of Medicine Health Sciences Building, Seattle	R	B	Unknown	Lecture or panel Demonstration	Spring, 1956	C; 2 days	20

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		17. HEMATOLOGY							
17 P 01261	Clinical Hematology [92]	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	S	S	45	Laboratory work Clinical case work	7/56	C; 6 days	75
17 P 01710	Clinical Hematology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	9/21/55	I; 2 hr. weekly for 10 wk. Wednesdays	100
17 P 01711	Clinical Hematology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	3/21/56	I; 2 hr. weekly for 10 wk. Wednesdays	100
17 P 01610	Hematology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Laboratory work Clinical case work	6/11/56	C; 1 wk.	100
17 P 01753	Hematologic Diagnosis [58]	Michael Reese Hospital 29th Street and Ellis Avenue, Chicago 16	S	B	80	Laboratory work Clinical case work	7/18/56	C; 2 wk.	150
17 P 01831	Postgraduate Course on Hematology [207]	State University of Iowa College of Medicine Iowa City	R	B	6	Lecture or panel	11/10/55	C; 1 day	10
17 P 01873	Hematology [40, 27]	University of Kansas Medical Center 39th and Rainbow Blvd., Kansas City 12, Kan.	S	B	14	Laboratory work Demonstration	3/15/56	C; 2 days	30
17 P 02168	Diseases of Blood and Blood-Forming Organs [57]	Dept. of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	B	34	Laboratory work Lecture or panel	4/56	C; 5 days	50
17 P 02845	Med PM 66—Clinical Hematology [59]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	48	Laboratory work Clinical case work Lecture or panel	9/13/55	I; 3 hr. weekly for 16 wk. Tuesdays	75
17 P 02846	Med PM 67—Advanced Hematology [93]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	40	Laboratory work Clinical case work Lecture or panel	9/20/55	I; 2½ hr. weekly for 16 wk. Tuesdays	75
17 P 02629	Hematology PM 31—Hematology	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	24	Laboratory work	11/ 1/55	I; 3 hr. weekly for 8 wk. Tuesdays	50
17 P 03326	5436-A Hematology [8]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	35	Lecture or panel Demonstration	11/ 7/55	C; 5 days	75
17 P 01337	Med PM 66—Clinical Hematology [58]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	48	Laboratory work Clinical case work Lecture or panel	1/31/56	I; 3 hr. weekly for 16 wk. Tuesdays	75
17 P 01336	Med PM 67—Advanced Hematology [93]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	40	Laboratory work Clinical case work Lecture or panel	2/ 7/56	I; 2½ hr. weekly for 16 wk. Tuesdays	75
17 P 02628	Hematology PM 30—Laboratory Methods in Hematology [88]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	64	Laboratory work	2/27/56	C; 4 wk.	200
17 P 02630	Hematology PM 32—Laboratory Methods in Blood Banks [88]	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	24	Laboratory work	4/ 3/56	I; 4 hr. weekly for 6 wk. Tuesdays	50
17 P 03297	546-A Clinical Hematology [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	20	Lecture or panel Demonstration	4/10/56	I; 2½ hr. weekly for 8 wk. Mondays, Thursdays	40
17 P 02961	Hematology DM1086	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	20	Laboratory work Small group discussion	Anytime	I; 2½ hr. weekly for 8 wk. Tuesdays	50
17 P 03909	Clinical and Laboratory Hematology [180]	Bryn Mawr Hospital Bryn Mawr, Pa.	S	B	240	Laboratory work Lecture or panel	10/ 1/55	C; 6 wk.	200
17 P 03911	Clinical and Laboratory Hematology	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	240	Laboratory work Lecture or panel	12/ 1/55	C; 6 wk.	200
17 P 03912	Clinical and Laboratory Hematology	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	240	Laboratory work Lecture or panel	2/ 1/56	C; 6 wk.	200
17 P 03846	Hematology [83, 6]	Albert Einstein Medical Center, Northern Division York and Tabor roads, Philadelphia 41	R	G	25	Clinical case work Lecture or panel	Spring, 1956	I; 2½ hr. weekly for 10 wk. Wednesdays	75

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17 P 03913	Clinical and Laboratory Hematology	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	240	Laboratory work Lecture or panel	4/ 1/56	C; 6 wk.	200
17 P 03921	Practical Pediatric Hematology [101, 190]	The Children's Hospital 1740 Bainbridge St., Philadelphia	R	B	24	Small group discussion Lecture or panel	6/56	C; 3 days	60
17 P 04176	Clinical Pathology [13, 206]	The University of Texas Postgraduate School of Medicine, Temple Division, Scott and White (Clinic) Hospitals Temple, Texas	R	G	88	Laboratory work	Arranged	Specially arranged for 2 wk.	25
		18. INDUSTRIAL MEDICINE							
18 P 01913	Industrial Medicine [24]	Tulane University School of Medicine 1430 Tulane Ave., New Orleans	R	B	16	Lecture or panel	4/12/56	C; 2 days	25
18 P 03281	488-A Industrial Medicine for Physicians [31]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	280	Lecture or panel Seminars	9/26/55	C; 8 wk.	250
18 P 03285	482-B Industrial Hygiene Laboratory [95]	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	Unknown	Laboratory work	9/55	Specially arranged	66
18 P 03287	4810-A Industrial Toxicology [58]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	Unknown	Lecture or panel Demonstration	9/55	Specially arranged	66
18 P 03282	484-A Medical Aspects of Compensation [96]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	35	Lecture or panel	10/31/55	C; 1 wk.	Unknown
18 P 03289	486-A Air Pollution [81]	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	70	Lecture or panel	11/28/55	C; 2 wk.	60
18 P 03290	480-A Introduction to Radiological Safety [97]	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	70	Lecture or panel	1/ 9/56	C; 2 wk.	60
18 P 01511	5433—A Tutorial Course in Internal Medicine [5, 104]	New York Postgraduate Medical School 550 First Ave., New York	S	G	6 mo.	Laboratory work Clinical case work	1/56	C; for 4 mo. or 6 mo.	100 mo.
18 P 03284	482-A Industrial Hygiene [31]	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	Unknown	Laboratory work Lecture or panel	2/56	Specially arranged	66
18 P 03286	489-A Chemical Methods in Industrial Hygiene [88]	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	Unknown	Laboratory work	2/56	Specially arranged	81
18 P 03288	4811-A Special Topics in Industrial Hygiene Laboratory Methods	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	Unknown	Laboratory work Small group discussion	Unknown	Specially arranged	Unknown
18 P 03141	Course for General Practitioner	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	22	Laboratory work Clinical case work	Arranged	Specially arranged	100
18 P 03600	Seminar in Industrial Health [5, 77]	N. C. Memorial Hospital Chapel Hill, N. C.	R	B	12	Lecture or panel	2/ 9/56	C; 2 days	10
18 P 03681	Seminars in Industrial Medicine [52]	Institute of Industrial Health, College of Medicine, University of Cincinnati Cincinnati	S	B	50	Clinical case work Lecture or panel	9/10/55	I; 1 hr. twice weekly for 8 mo. Fridays, Saturdays	Unknown
18 P 03680	Occupational Skin Problem [11]	Institute of Industrial Health, College of Medicine, University of Cincinnati Cincinnati	S	B	35	Clinical case work Lecture or panel	10/10/55	C; 1 wk.	75
18 P 03682	The Lead Problem in Industry [41]	Institute of Industrial Health, College of Medicine, University of Cincinnati Cincinnati	S	B	30	Lecture or panel	11/ 7/55	C; 5 days	75
18 P 03971	Occupational Medicine [102]	Graduate School of Public Health, University of Pittsburgh Pittsburgh 13	R	S	220	Laboratory work Lecture or panel	11/21/55	C; 10 wk.	200
18 P 03996	Seminar on Industrial Medicine	Medical College of South Carolina 16 Lucas St., Charleston, S. C.	S	B	7	Lecture or panel	Unknown	C; 1 day	Nil
		19. INFECTIOUS DISEASE							
19 P 03516	Infectious Diseases [8]	University of Buffalo School of Medicine 3435 Main St., Buffalo	E	G	7	Clinical case work Small group discussion	12/ 1/55	C; 1 day	15

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		20. INTERNAL MEDICINE							
20 P 01204	Evening Lectures in Medicine, Part 1 and Part 2 [99, 84]	Mills Memorial Hospital San Mateo, Calif.	R	B	24	Lecture or panel	9/22/55	I; 2 hr. weekly for 12 wk. Thursdays	To be announced
20 P 01203	Postgraduate Institute [84, 5]	Herrick Memorial Hospital 2001 Dwight Way, Berkeley, Calif.	R	B	12	Lecture or panel Small group discussion	9/28/55	I; 2 hr. weekly for 6 wk. Wednesdays	To be announced
20 P 01222	855: Intensive Review of Internal Medicine	University of Southern California School of Medicine Medical Research Building, 2025 Zonal Ave., Los Angeles 33	R	B	40	Lecture or panel	9/55	C; 2 wk.	50
20 P 01079	General Management of Diabetes Mellitus [84, 24]	Los Angeles County General Hospital 1200 N. State St., Los Angeles 33	R	G	27½	Small group discussion	10/ 6/55	I; 2½ hr. weekly for 11 wk. Thursdays	60
20 P 04555	Recent Advances in Internal Medicine [5, 100]	Letterman Army Hospital San Francisco	R	B	40	Clinical case work Lecture or panel	10/31/55	C; 5 days	Nil
20 P 01094	Differential Diagnosis of Internal Diseases [65, 24]	Los Angeles County Hospital 1200 N. State St., Los Angeles 33	R	B	18	Small group discussion	1/ 3/56	I; 1½ hr. weekly for 12 wk. Tuesdays	50
20 P 01206	Management of Diabetes	University of Colorado School of Medicine 4200 E. 9th Ave., Denver 20	R	B	20	Clinical case work Small group discussion	5/24/56	C; 3 days	30
20 P 01200	Fundamental Advances in Internal Medicine	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	R	B	40	Lecture or panel	6/56	C; 5 days	60
20 P 01372	Seminar on Diabetes [5, 180, 283]	Princess Issena Hotel Daytona Beach, Fla.	R	B	10	Lecture or panel	10/20/55	C; 2 days	10
20 P 01714	Electrocardiography and Heart Disease [58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	70	Clinical case work Laboratory work	9/14/55	I; 7 hr. weekly for 10 wk. Wednesdays	150
20 P 01602	One Week Advanced Course in Electrocardiography [5, 180]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	40	Laboratory work Clinical case work	9/19/55	C; 1 wk.	150
20 P 01611	Liver and Biliary Tract Diseases [5, 92]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Laboratory work Clinical case work	9/19/55	C; 1 wk.	100
20 P 01712	Clinical Medicine at the Bedside [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Clinical case work Small group discussion	9/21/55	I; 2 hr. weekly for 10 wk. Wednesdays	100
20 P 01719	Differential Diagnosis [58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	9/21/55	I; 2 hr. weekly for 10 wk. Wednesdays	100
20 P 01724	General Medicine [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Clinical case work Small group discussion	9/21/55	I; 2 hr. weekly for 10 wk. Wednesdays	100
20 P 01722	Arthritis and Allied Rheumatic Diseases	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	9/23/55	I; 2 hr. weekly for 10 wk. Fridays	100
20 P 01595	Course 2—Internal Medicine [5, 178]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	80	Clinical case work Small group discussion	9/26/55	C; 2 wk.	125
20 P 01599	Electrocardiography and Heart Disease [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	76	Laboratory work Clinical case work	10/10/55	C; 2 wk.	150
20 P 01715	Electrocardiography and Heart Disease [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	70	Laboratory work Clinical case work	2/ 8/56	I; 7 hr. weekly for 10 wk. Wednesdays	150
20 P 01600	Electrocardiography and Heart Disease [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	76	Laboratory work Clinical case work	3/12/56	C; 2 wk.	150
20 P 01713	Clinical Medicine at the Bedside [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Clinical case work Small group discussion	3/21/56	I; 2 hr. weekly for 10 wk. Wednesdays	100
20 P 01725	General Medicine [58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Clinical case work Small group discussion	3/21/56	I; 2 hr. weekly for 10 wk. Wednesdays	100
20 P 01723	Arthritis and Allied Rheumatic Diseases [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	3/23/56	I; 2 hr. weekly for 10 wk. Fridays	100

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20 P 01590	Course II—Internal Medicine [5, 178]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	80	Clinical case work Small group discussion	4/30/56	C; 2 wk.	125
20 P 01612	Liver and Biliary Tract Diseases [9, 92]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Laboratory work Clinical case work	6/18/56	C; 1 wk.	100
20 P 01601	Electrocardiography and Heart Disease [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	76	Laboratory work Clinical case work	7/ 9/56	C; 2 wk.	150
20 P 01802	Treatment of Diabetes [208]	State University of Iowa College of Medicine Iowa City	R	B	6	Lecture or panel	12/ 8/55	C; 1 day	10
20 P 00886	Recent Developments in Psychiatry for the Internist [240, 53, 5, 241]	The Menninger Foundation Topeka, Kan.	S	S	40	Lecture or panel	10/31/55	C; 5 days	30 to members
20 P 01863	Internal Medicine [40]	University of Kansas Medical Center 39th and Rainbow Blvd., Kansas City 12, Kan.	R	B	24	Clinical case work Lecture or panel	11/14/55	C; 4 days	50
20 P 01916	Fluid and Electrolyte Balance [101]	Tulane University School of Medicine 1430 Tulane Ave., New Orleans	S	B	40	Laboratory work Clinical case work	1/16/56	C; 5 days	50
20 P 02019	Internal Medicine 2 [210, 106]	Boston City Hospital 818 Harrison Ave., Boston	S	B	400	Laboratory work Clinical case work	9/ 1/55	C; 13 wk.	400
20 P 02126	Review of Recent Advances in Internal Medicine [210, 96]	New England Center Hospital 171 Harrison Ave., Boston	R	B	36	Clinical case work Lecture or panel	10/ 3/55	C; 1 wk.	50
20 P 02013	Diabetes and Endocrinology in Relation to General Medicine [219, 212]	New England Deaconess Hospital 16 Deaconess Rd., Boston	R	B	21	Clinical case work Small group discussion	10/10/55	C; 3 days	30
20 P 02010	Cardiology 2 [57, 210]	Boston City Hospital 818 Harrison Ave., Boston	R	B	36	Clinical case work Lecture or panel	11/ 2/55	I; 3 hr. weekly for 12 wk. Wednesdays	75
20 P 02020	Internal Medicine 2 [210, 106]	Boston City Hospital 818 Harrison Ave., Boston	S	B	400	Laboratory work Clinical case work	6/ 4/56	C; 13 wk.	400
20 P 02005	Neurological Medicine for Physicians [51, 210]	Boston City Hospital 818 Harrison Ave., Boston	S	S	35	Clinical case work Lecture or panel	6/18/56	C; 1 wk.	150
20 P 02011	Internal Medicine 3 [11, 210]	Massachusetts General Hospital Fruit Street, Boston	R	B	180	Small group discussion Lecture or panel	6/18/56	C; 6 wk.	250
20 P 02012	Clinical Heart Disease [210, 211]	Peter Bent Brigham Hospital 721 Huntington Ave., Boston	R	B	120	Laboratory work Clinical case work	7/ 2/56	C; 4 wk.	200
20 P 02222	Electrocardiography	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	33	Lecture or panel	9/55	I; 1 hr. weekly for 33 wk.	45
20 P 02159	Clinical Internal Medicine [214]	Department of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	G	84	Unknown	10/ 6/55	I; 3½ hr. weekly for 24 wk. Thursdays	65
20 P 03821	Recent Advances in Internal Medicine [240, 248, 5, 241]	University of Michigan Medical School Ann Arbor, Mich.	S	S	44	Lecture or panel	10/17/55	C; 5½ days	30 to members
20 P 02165	Diseases of the Heart [57]	Dept. of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	B	35	Lecture or panel	3/56	C; 5 days	50
20 P 02224	Gastroenterology Clinic [102]	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	11	Lecture or panel	Unknown	I; 1 hr. weekly for 11 wk.	15
20 P 02225	Medical X-Ray Conference	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	11	Lecture or panel	Unknown	I; 1 hr. weekly for 11 wk.	15
20 P 02226	Therapeutic Conference	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	11	Lecture or panel	Unknown	I; 1 hr. weekly for 11 wk.	15
20 P 02234	Medical Seminar	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	11	Lecture or panel	Unknown	I; 1 hr. weekly for 11 wk.	15
20 P 02235	Medical Pathological Conference	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	11	Lecture or panel	Unknown	I; 1 hr. weekly for 11 wk.	15
20 P 02236	Hematology Clinic	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	22	Lecture or panel	Unknown	I; 2 hr. weekly for 11 wk.	15
20 P 02237	Review of Clinical Hematology	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	11	Lecture or panel	Unknown	I; 1 hr. weekly for 11 wk.	15
20 P 02314	Internal Medicine for Internists [33, 5]	University of Minnesota Center for Continuation Study Minneapolis	R	S	16	Lecture or panel	2/13/56	C; 3 days	25
20 P 02455	Chronic Diseases [225, 8]	St. Michael's Hospital 306 High St., Newark, N. J.	R	G	14	Lecture or panel Demonstration	10/12/55	I; 2 hr. monthly for 7 mo. Wednesdays	25

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Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		20. INTERNAL MEDICINE—Continued							
20 P 03310	5420-A Normal and Pathological Physiology: Functional and Chemical Aspects [8]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	70	Lecture or panel	9/ 6/55	C; 10 days	100
20 P 02648	Medicine PM 66—Clinical Hematology [51]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	57	Clinical case work Lecture or panel	9/13/55	I; 3 hr. weekly for 19 wk. Tuesdays	75
20 P 02651	Medicine PM 67—Advanced Hematology [102]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	47½	Clinical case work Lecture or panel	9/13/55	I; 2½ hr. weekly for 19 wk. Tuesdays	75
20 P 02654	Medicine PM 70—Gastroenterology	Montefiore Hospital East Gun Hill Road, New York 67	R	G	56	Clinical case work Lecture or panel	9/13/55	I; 3½ hr. weekly for 16 wk. Tuesdays	75
20 P 02656	Medicine PM 72—Neoplastic Diseases [83]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	80	Clinical case work Lecture or panel	9/13/55	I; 4 hr. weekly for 20 wk. Tuesdays	150
20 P 02653	Medicine PM 68—Allergy [102]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	26	Clinical case work Lecture or panel	9/15/55	I; 2 hr. weekly for 13 wk. Thursdays	50
20 P 02644	Medicine PM 63—Cardiology 3 Section A	Montefiore Hospital East Gun Hill Road, New York 67	R	G	63	Clinical case work Lecture or panel	9/20/55	I; 3½ hr. weekly for 19 wk. Tuesdays	150
20 P 02647	Medicine PM 64—Recent Advances in Surgical Treatment of Heart Diseases	Montefiore Hospital East Gun Hill Road, New York 67	R	G	63	Clinical case work Lecture or panel	9/20/55	I; 3½ hr. weekly for 18 wk. Tuesdays	150
20 P 02642	Medicine PM 62—Cardiology 2—Section A	Montefiore Hospital East Gun Hill Road, New York 67	R	G	45½	Clinical case work Lecture or panel	9/22/55	I; 3½ hr. weekly for 13 wk. Thursdays	150
20 P 02640	Medicine PM 60—Cardiology 1—Section A	Montefiore Hospital East Gun Hill Road, New York 67	R	G	78	Clinical case work Lecture or panel	9/22/55	I; 6 hr. weekly for 13 wk. Thursdays	150
20 P 02646	Medicine PM 65—Peripheral Vascular Diseases [103]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	81	Clinical case work Lecture or panel	9/22/55	I; 3 hr. weekly for 27 wk. Thursdays	125
20 P 03323	5433-A Tutorial Course in Internal Medicine [8, 104, 105]	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	Unknown	Laboratory work Clinical case work	9/55	C; 4 to 6 mo.	100
20 P 02659	Medicine PM 80—Diseases of the Chest [106, 107]	Bellevue Hospital East 26th Street, New York 32	R	G	160	Clinical case work	10/ 3/55	C; 4 wk.	125
20 P 02650	Medicine PM 65-A—Advanced Course in Peripheral Vascular Surgery [103]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	54	Clinical case work Lecture or panel	10/ 5/55	I; 3 hr. weekly for 18 wk. Wednesdays	150
20 P 02633	Medicine PM 41—Elementary Electrocardiography	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	30	Clinical case work Lecture or panel	10/24/55	C; 1 wk.	75
20 P 02631	Medicine PM 29—Clinical Cardiology	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	20	Clinical case work	10/25/55	I; 2 hr. weekly for 10 wk. Tuesdays	50
20 P 02634	Medicine PM 42—Advanced Electrocardiography	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	30	Clinical case work Lecture or panel	10/31/55	C; 1 wk.	75
20 P 03549	Recent Advances in Internal Medicine [8]	Kings County Hospital Brooklyn, N. Y.	R	G	15	Clinical case work Lecture or panel	10/55	I; 1½ hr. weekly for 10 wk. Wednesdays	30
20 P 02637	Medicine PM 43—Spatial Vectorcardiography	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	28	Clinical case work Lecture or panel	11/ 7/55	C; 1 wk.	75
20 P 03306	5414-A Arthritis and Allied Rheumatic Disorders [8]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	35	Clinical case work Lecture or panel	11/ 7/55	C; 1 wk.	75
20 P 03311	5422-A Diabetes Mellitus, Hyperinsulinism and Hypoglycemia [8]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	21	Lecture or panel	11/14/55	C; 3 days	35
20 P 03322	5432-A Recent Advances in the Diagnosis and Treatment of Poisonings [8]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	21	Laboratory work Lecture or panel	12/ 5/55	C; 3 days	60
20 P 02641	Medicine PM 60—Cardiology 1—Section B	Montefiore Hospital East Gun Hill Road, New York 67	R	G	78	Clinical case work Lecture or panel	1/ 5/56	I; 6 hr. weekly for 13 wk. Thursdays	150
20 P 02643	Medicine PM 62—Cardiology 2—Section B	Montefiore Hospital East Gun Hill Road, New York 67	R	G	45½	Clinical case work Lecture or panel	1/ 5/56	I; 3½ hr. weekly for 13 wk. Thursdays	150
20 P 02655	Medicine PM 71—Diseases of the Chest [108]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	53½	Clinical case work Lecture or panel	1/ 6/56	I; 2½ hr. weekly for 21 wk. Fridays	100
20 P 02635	Medicine PM 41—Elementary Electrocardiography	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	30	Clinical case work Lecture or panel	1/16/56	C; 1 wk.	75

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20 P 02658	Medicine PM 73—Advanced Gastroenterology [102]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	59½	Clinical case work Lecture or panel	1/17/56	I; 3½ hr. weekly for 17 wk. Tuesdays	75
20 P 03517	Arthritis [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	7	Clinical case work Small group discussion	1/19/56	C; 1 day	15
20 P 02636	Medicine PM 42—Advanced Electrocardiography	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	30	Clinical case work Lecture or panel	1/23/56	C; 1 wk.	75
20 P 02632	Medicine PM 31—Cardiovascular Diseases	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	70	Clinical case work Lecture or panel	1/30/56	C; 2 wk.	150
20 P 02701	Medicine PM 64—Recent Advances in Surgical Treatment of Heart Diseases	Montefiore Hospital East Gun Hill Road, New York 67	R	G	63	Clinical case work Lecture or panel	1/31/56	I; 3½ hr. weekly for 18 wk. Tuesdays	150
20 P 02645	Medicine PM 63—Cardiology 3—Section B	Montefiore Hospital East Gun Hill Road, New York 67	R	G	63	Clinical case work Lecture or panel	1/31/56	I; 3½ hr. weekly for 19 wk. Tuesdays	150
20 P 02649	Medicine PM 66—Clinical Hematology [51]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	57	Clinical case work Lecture or panel	1/31/56	I; 3 hr. weekly for 19 wk. Tuesdays	75
20 P 02652	Medicine PM 67—Advanced Hematology [102]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	47½	Clinical case work Lecture or panel	1/31/56	I; 2½ hr. weekly for 19 wk. Tuesdays	75
20 P 02657	Medicine PM 72—Neoplastic Diseases [21]	Montefiore Hospital East Gun Hill Road, New York 67	R	G	80	Clinical case work Lecture or panel	1/31/56	I; 4 hr. weekly for 20 wk. Tuesdays	150
20 P 02660	Medicine PM 80—Diseases of the Chest [100, 107]	Bellevue Hospital East 26th Street, New York 32	R	G	160	Clinical case work Lecture or panel	2/14/56	C; 4 wk.	125
20 P 03324	5434-A Arthritis and Related Disorders [109]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	35	Demonstration	2/ 1/56	I; 7 hr. weekly for 5 wk. Tuesdays	75
20 P 02639	Medicine PM 48—Heart Disease and Circulatory Dynamics	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	18	Clinical case work Lecture or panel	2/14/56	I; 2 hr. weekly for 9 wk. Tuesdays	50
20 P 02661	Medicine PM 81—Arthritis	Hospital for Joint Diseases 1919 Madison Ave., New York	R	G	20	Clinical case work Lecture or panel	3/ 5/56	I; 2 hr. weekly for 10 wk. Mondays	100
20 P 03291	541-A Seminar in Internal Medicine [9]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	280	Lecture or panel Demonstration	4/ 9/56	C; 8 wk.	250
20 P 03303	5412-A Nephritis and Hypertension [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	24	Lecture or panel Demonstration	4/ 9/56	I; 3 hr. weekly for 8 wk. Mondays	30
20 P 03292	542-A Arthritis and Allied Rheumatic Disorders [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	24	Lecture or panel Demonstration	4/10/56	I; 3 hr. weekly for 8 wk. Tuesdays	50
20 P 03296	545-A Normal and Pathological Physiology: Functional and Chemical Aspects [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	16	Lecture or panel Demonstration	4/11/56	I; 2 hr. weekly for 8 wk. Wednesdays	40
20 P 03301	5410-A Diseases of the Liver and Biliary Tract [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	16	Lecture or panel Demonstration	4/11/56	I; 2 hr. weekly for 8 wk. Wednesdays	35
20 P 03298	547-A Problems in Diagnosis [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	12	Clinical case work Demonstration	4/13/56	I; 1¾ hr. weekly for 7 wk. Fridays	35
20 P 03309	5419-A Symposium on Modern Therapeutics in Internal Medicine [9]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	70	Lecture or panel Demonstration	6/11/56	C; 10 days	90
20 P 02953	Internal Medicine DM1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	Unknown	Clinical case work Demonstration	Anytime	Specially arranged	300
20 P 03828	Physiological Basis of Internal Medicine [240, 68, 6, 241]	Duke University School of Medicine Durham, N. C.	S	S	40	Lecture or panel	10/14/55	C; 5 days	30 to members
20 P 04135	Internal Medicine [288, 289]	The University of Texas, Southwestern Medical School 5323 Harry Hines Blvd., Dallas, Texas	R	S	Unknown	Unknown	12/55	C; 2 days	Unknown
20 P 02489	Diabetes and Basic Metabolic Problems [244, 245, 246]	Dallas, Texas	S	B	20	Lecture or panel	1/25/56	C; 3 days	40 to members
20 P 04191	Hypertension and Complications [40, 200]	The University of Texas Postgraduate School of Medicine, Corpus Christi Division Corpus Christi, Texas	R	B	6	Lecture or panel	2/56	C; 1 day	10
20 P 04290	Contemporary Developments in Internal Medicine [249]	University of Washington School of Medicine Health Sciences Building, Seattle	R	S	30	Clinical case work Small group discussion	11/14/55	C; 5 days	50

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		20. INTERNAL MEDICINE—Continued							
20 P 03820	Neuropsychiatric Aspects of Internal Medicine [240, 5, 241]	University of Wisconsin Medical School Madison, Wis.	S	S	40	Lecture or panel	10/14/55	C; 5 days	30 to members
20 P 04367	Observation Course in Internal Medicine	University of Wisconsin Medical School 418 N. Randall Ave., Madison, Wis.	R	S	Variable	Clinical case work	Anytime	C; 4 wk.	100
		21. MALIGNANT DISEASE							
21 P 02484	Cancer Conference	American Cancer Society, California Division 467 O'Farrell St., San Francisco 2	S	S	4	Lecture	9/30/55	C; 4 hrs.	Nil
21 P 02486	Ninth Annual Connecticut Cancer Conference for Physicians [247, 62, 248]	Ballroom, Hotel Taft 81 College St., New Haven, Conn.	R	G	5	Lecture or panel	3/56	C; 5 hr.	Nil
21 P 01277	Cancer Teaching Day [110]	New Haven, Conn.	S	B	6	Small group discussion Lecture or panel	3/56	C; 1 day	Nil
21 P 01763	Physicians' Postgraduate Courses in Cancer Cytology [5, 16, 208]	The Cancer Institute at Miami 1155 N. W. 14th St., Miami, Fla.	S	B	Variable	Laboratory work Lecture or panel	Any time	Specially arranged	450 for 1 yr.
21 P 01493	Malignant Bone Tumors—Symptomatology, Diagnosis, Treatment, and Prognosis	American College of Surgeons (Clinical Congress) 40 E. Erie St., Chicago 11	R	S	12	Lecture or panel	10/31/55	I; 3 hr. daily for 4 days	5
21 P 01804	Symposium on Malignancy (Neurogenic Carcinoma)	Indiana University School of Medicine 1100 W. Michigan St., Indianapolis	R	B	12	Lecture or panel	3/27/56	C; 2 days	Nil
21 P 02315	Cancer Detection for General Physicians [88, 9]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Lecture or panel	2/16/56	C; 3 days	25
21 P 02850	Med PM 72—Neoplastic Diseases [31]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	80	Laboratory work Clinical case work Lecture or panel	9/13/55	I; 4 hr. weekly for 20 wk. Tuesdays	150
21 P 04500	Office Procedures for Cancer Detection	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	S	B	17½	Clinical case work Demonstration	11/ 8/55	I; 3½ hr. weekly for 5 wk. Tuesdays	25
21 P 02625	Cancer PM 1—Cancer Diagnosis and Treatment [112]	Columbia Presbyterian Medical Center 630 W. 168th St., New York 32	R	G	38	Small group discussion	11/14/55	C; 1 wk.	100
21 P 04503	Office Procedure for Cancer Detection	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	S	B	17½	Clinical case work Demonstration	1/ 3/56	I; 3½ hr. weekly for 5 wk. Tuesdays	25
21 P 01335	Med PM 72—Neoplastic Diseases [31]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	80	Laboratory work Clinical case work Lecture or panel	1/31/56	I; 4 hr. weekly for 20 wk. Tuesdays	150
21 P 04504	Office Procedures for Cancer Detection	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	S	B	17½	Clinical case work Demonstration	2/28/56	I; 3½ hr. weekly for 5 wk. Tuesdays	25
21 P 03811	Diagnosis and Treatment of Malignant Neoplasms [53, 208]	University of Oregon Medical School 3181 S. W. Sam Jackson Park Rd., Portland, Ore.	R	B	35	Clinical case work Small group discussion	9/12/55	C; 5 days	25
21 P 04189	Malignancies [228, 206]	The University of Texas Postgraduate School of Medicine, San Antonio Division, Robert B. Green Hospital San Antonio, Texas	R	B	8	Small group discussion	3/ 7/56	I; 2 hr. weekly for 4 wk. Wednesdays	15
		22. MICROBIOLOGY							
22 P 01020	Laboratory Diagnosis of Virus and Rickettsial Diseases (8.20) [28, 111]	Communicable Disease Center, U. S. Public Health Service, Virus and Rickettsia Laboratories Montgomery, Ala.	S	S	80	Laboratory work Lecture or panel	10/17/55	C; 2 wk.	Nil
22 P 01405	Laboratory Diagnosis of Viral and Rickettsial Diseases (8.20) [16, 112, 113]	Communicable Disease Center, U. S. Public Health Service, Virus and Rickettsia Laboratories Montgomery, Ala.	S	B	80	Laboratory work Small group discussion	10/17/55	C; 2 wk.	Nil
22 P 01407	Laboratory Diagnosis of Rabies (8.26) [51, 113]	Communicable Disease Center, U. S. Public Health Service, Virus and Rickettsia Laboratories Montgomery, Ala.	S	G	40	Laboratory work Small group discussion	10/31/55	C; 5 days	Nil
22 P 01021	Laboratory Diagnosis of Virus and Rickettsial Diseases (8.20) [28, 111]	Communicable Disease Center, U. S. Public Health Service, Virus and Rickettsia Laboratories Montgomery, Ala.	S	S	80	Laboratory work Lecture or panel	3/12/56	C; 2 wk.	Nil

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22 P 01406	Laboratory Diagnosis of Viral and Rickettsial Diseases (8.20) [16, 112, 113]	Communicable Disease Center, U. S. Public Health Service, Virus and Rickettsia Laboratories Montgomery, Ala.	S	B	80	Laboratory work Small group discussion	3/12/56	C; 2 wk.	Nil
22 P 01407	Laboratory Diagnosis of Rabies (8.26) [51, 113]	Communicable Disease Center, U. S. Public Health Service, Virus and Rickettsia Laboratories Montgomery, Ala.	S	G	40	Laboratory work Small group discussion	3/26/56	C; 5 days	Nil
22 P 01022	Virus Isolation and Identification Technics (8.21) [91, 111]	Communicable Disease Center, U. S. Public Health Service, Virus and Rickettsia Laboratories Montgomery, Ala.	S	S	Varies	Laboratory work	Anytime	Specially arranged	Unknown
22 P 01294	Microbiology 210—Diagnostic Medical Mycology	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	40	Laboratory work Small group discussion	Arranged	C; 5 wk.	100
22 P 01396	Laboratory Diagnosis of Parasitic Diseases, Part 1, Intestinal Parasites (8.00) [16, 51]	Communicable Disease Center, U. S. Public Health Service P. O. Box 185, Chamblee, Ga.	S	B	160	Laboratory work Small group discussion	9/12/55	C; 4 wk.	Nil
22 P 01398	Laboratory Diagnosis of Bacterial Diseases, Part 1, General Bacteriology (8.40) [16, 51]	Communicable Disease Center, U. S. Public Health Service P. O. Box 185, Chamblee, Ga.	S	B	80	Laboratory work Small group discussion	9/12/55	C; 2 wk.	Nil
22 P 01399	Laboratory Diagnosis of Bacterial Diseases, Part 2, General Bacteriology (8.41) [16, 51]	Communicable Disease Center, U. S. Public Health Service P. O. Box 185, Chamblee, Ga.	S	B	80	Laboratory work Small group discussion	9/26/55	C; 2 wk.	Nil
22 P 01397	Laboratory Diagnosis of Parasitic Diseases, Part 2, Blood Parasites (8.01) [16, 51]	Communicable Disease Center, U. S. Public Health Service P. O. Box 185, Chamblee, Ga.	S	B	120	Laboratory work Small group discussion	10/10/55	C; 3 wk.	Nil
22 P 01400	Laboratory Diagnosis of Bacterial Diseases, Enteric Bacteriology (8.50) [16, 114]	Communicable Disease Center, U. S. Public Health Service P. O. Box 185, Chamblee, Ga.	S	B	80	Laboratory work Small group discussion	10/17/55	C; 2 wk.	Nil
22 P 01401	Laboratory Methods in Medical Mycology, Part 1, Cutaneous Pathogenic (8.15) [16, 114]	Communicable Disease Center, U. S. Public Health Service P. O. Box 185, Chamblee, Ga.	S	B	80	Laboratory work Small group discussion	10/31/55	C; 2 wk.	Nil
22 P 01402	Laboratory Methods in Medical Mycology, Part 2, Subcutaneous and Systemic Fungi (8.16) [16, 114]	Communicable Disease Center, U. S. Public Health Service P. O. Box 185, Chamblee, Ga.	S	B	80	Laboratory work Small group discussion	11/14/55	C; 2 wk.	Nil
22 P 01403	Laboratory Diagnosis of Tuberculosis (8.55) [16, 114]	Communicable Disease Center, U. S. Public Health Service P. O. Box 185, Chamblee, Ga.	S	B	80	Laboratory work Small group discussion	11/14/55	C; 2 wk.	Nil
22 P 01395	Laboratory Methods in the Study of Pulmonary Mycoses (8.17) [16, 114]	Communicable Disease Center, U. S. Public Health Service P. O. Box 185, Chamblee, Ga.	S	B	80	Laboratory work Small group discussion	11/28/55	C; 10 days	Nil
22 P 02214	Microbiology Seminar	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	11	Small group discussion	Unknown	I; 1 hr. weekly for 11 wk.	15
22 P 02241	Parasitology and Medical Entomology [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	66	Laboratory work Small group discussion	Unknown	I; 3 hr. weekly for 11 wk.	50
22 P 02949	Bacteriology DB1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 103th St., New York	R	G	Unknown	Laboratory work Small group discussion	Anytime	C; 6 wk.	100
22 P 04185	Laboratory and X-Ray Diagnosis [206]	The University of Texas Postgraduate School of Medicine, State Medical Association Library Building, Austin, Texas	R	G	16	Lecture or panel	10/17/55	I; 2 hr. weekly for 8 wk. Mondays	25
		23. NEUROLOGY							
23 P 04609	Clinical Neurology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	9/21/55	I; 3 hr. weekly for 10 wk. Wednesdays	100
23 P 04610	Clinical Neurology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Small group discussion	3/21/56	I; 3 hr. weekly for 10 wk. Wednesdays	100
23 P 01829	Neurology Postgraduate Course [205]	State University of Iowa College of Medicine Iowa City	R	B	6	Lecture or panel Demonstration	4/11/56	C; 1 day	10
23 P 02087	Postgraduate Seminar in Neurology and Psychiatry [127]	Metropolitan State Hospital 475 Trapelo Rd., Waltham, Mass.	S	B	74	Laboratory work Lecture or panel	10/ 7/55	I; 3 hr. twice weekly for 20 wk. Fridays, Saturdays	Nil
23 P 02313	Neurology [33, 5]	University of Minesota Center for Continuation Study Minneapolis 14	R	B	32	Lecture or panel	2/ 6/56	C; 1 wk.	40

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		23. NEUROLOGY—Continued							
23 P 02858	Neurology PM 61—Advanced Neurology [115]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	420	Laboratory work Clinical case work Operative surgery	9/55	C; 13 wk.	150
23 P 03380	644-A Neuroanatomy and Neurophysiology [57]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	126	Laboratory work Lecture or panel	9/12/55	I; 3½ hr. 3 days weekly by arrangement	250
23 P 02685	Neurology PM 62—Review of Neurology [58]	Montefiore Hospital East Gun Hill Road, New York 67	S	S	78	Laboratory work Clinical case work	9/14/55	I; 2 hr. 3 times weekly for 13 wk. Tuesdays, Wednesdays Sundays	150
23 P 03381	647-A Psychiatry and Neurology	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	420	Clinical case work Lecture or panel	9/19/55	C; 12 wk.	300
23 P 01272	Clinical Neurology [110]	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	34½	Lecture or panel	9/26/55	I; 2½ hr. weekly for 11 wk. Mondays	Nil
23 P 02682	Neurology PM 33—Clinical Electroencephalography	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	45	Laboratory work	9/29/55	I; 3 hr. weekly for 15 wk. Thursdays	100
23 P 02663	Neurology PM 31—Neuropathology	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	20	Laboratory work	9/30/55	I; 2 hr. weekly for 10 wk. Fridays	75
23 P 03513	Neurology [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	7	Clinical case work Small group discussion	10/27/55	C; 1 day	15
23 P 02602	Neurology PM 30—Clinical Neurology	Mt. Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	30	Clinical case work Lecture or panel	4/ 2/56	C; 1 wk.	75
23 P 03379	642-A Electroencephalography [106]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	160	Laboratory work	Arranged	I; 4 hr. daily for 5 wk. Mondays, Fridays	300
23 P 02683	Neurology PM 34—Laboratory Training in Clinical Electroencephalography	Mount Sinai Hospital Fifth Avenue and 100th Street New York	S	S	500	Laboratory work	Arranged	Specially arranged	300
23 P 02684	Neurology PM 61—Advanced Neurology	Montefiore Hospital East Gun Hill Road, New York 67	S	S	500	Laboratory work Clinical case work	Arranged	Specially arranged	150
23 P 01218	Pain Syndromes: Diagnosis and Treatment by Regional Block [13]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	3	Clinical case work Lecture or panel	10/ 1/55	C; 3 wk.	200
23 P 01496	Pain Syndromes: Diagnosis and Treatment by Regional Block [13]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	3	Clinical case work Lecture or panel	11/ 1/55	C; 3 wk.	200
23 P 01497	Pain Syndromes: Diagnosis and Treatment by Regional Block [13]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	3	Clinical case work Lecture or panel	12/ 1/55	C; 3 wk.	200
23 P 01498	Pain Syndromes: Diagnosis and Treatment by Regional Block [13]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	3	Clinical case work Lecture or panel	1/ 1/56	C; 3 wk.	200
23 P 01499	Pain Syndromes: Diagnosis and Treatment by Regional Block [13]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	3	Clinical case work Lecture or panel	2/ 1/56	C; 3 wk.	200
23 P 01500	Pain Syndromes: Diagnosis and Treatment by Regional Block [13]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	3	Clinical case work Lecture or panel	3/ 1/56	C; 3 wk.	200
23 P 01501	Pain Syndromes: Diagnosis and Treatment by Regional Block [13]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	3	Clinical case work Lecture or panel	4/ 1/56	C; 3 wk.	200
23 P 03882	Pain Syndromes: Diagnosis and Treatment by Regional Block [13]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	3	Clinical case work Lecture or panel	5/ 1/56	C; 3 wk.	200
23 P 04298	The Management of Acute Paralytic Respiratory Failure	University of Washington School of Medicine Health Sciences Building, Seattle	R	B	9	Clinical case work Small group discussion	Summer, 1956	C; 1 day	Unknown

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24. NEUROSURGERY

24 P 03827	551-A The Intervertebral Disc [117]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	35	Lecture or panel Demonstration	10/ 3/55	C; 5 days	90
24 P 03829	553-A Acute Neurological Problems of General Practice [118]	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	39	Clinical case work Lecture or panel	10/17/55	C; 5½ days	125
24 P 03828	552-A Diagnosis and Treatment of Peripheral Nerve Injuries [117]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	35	Clinical case work Lecture or panel	1/ 9/56	C; 5 days	90
24 P 03830	553-B Acute Neurological Problems of General Practice [118]	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	39	Clinical case work Lecture or panel	4/30/56	C; 5½ days	125
24 P 04188	Neuro-Surgery [148, 208]	The University of Texas Post-graduate School of Medicine, San Antonio Division, Robert B. Green Hospital San Antonio, Texas	R	B	4	Small group discussion	1/18/56	I; 2 hr. weekly for 2 wk. Wednesdays	10

26. OBSTETRICS

26 P 01206	Gynecological and Obstetrical Conference	University of California Extension 540 Powell St., San Francisco 22	R	B	12	Lecture or panel	10/20/55	C; 2 days	60
26 P 01387	Tri-State Obstetric Seminar [119]	Daytona Plaza Hotel Daytona Beach, Fla.	R	B	15	Lecture or panel	9/12/55	C; 3 days	Nil
26 P 01141	Los Angeles Obstetrical and Gynecological Forum [180]	Ambassador Hotel 3400 Wilshire Blvd., Los Angeles 57	S	B	11	Lecture or panel	2/11/56	C; 2 days	20
26 P 01142	Obstetrical and Gynecological Assembly of Southern California [185]	Ambassador Hotel 3400 Wilshire Blvd., Los Angeles 57	S	S	23	Lecture or panel	2/13/56	C; 5 days	85
26 P 01352	Obstetrics and Gynecology [220, f]	George Washington University Hospital 901 23rd St., N. W., Washington 7, D. C.	R	B	30	Lecture or panel	3/12/56	C; 5 days	75
26 P 04619	Office and General Obstetrics [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	10/ 5/55	I; 5 hr. weekly for 4 wk. Wednesdays	100
26 P 01526	Basic Principles and Recent Developments in Obstetrics and Gynecology [227, 59, 5]	Knickerbocker Hotel 163 E. Walton Place, Chicago	R	B	40	Lecture or panel	10/24/55	C; 1 wk.	75
26 P 01492	Obstetrical and Gynecological Surgical Care	American College of Surgeons (Clinical Congress) 40 E. Erie St., Chicago 11	R	S	15	Lecture or panel	10/31/55	I; 3 hr. daily for 5 days	5
26 P 01624	Course I—Obstetrics [5, 200]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	75	Laboratory work Clinical case work	11/ 7/55	C; 2 wk.	150
26 P 04622	Surgical Obstetrics [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	11/28/55	I; 5 hr. weekly for 4 wk. Wednesdays	100
26 P 04623	Surgical Obstetrics [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	1/ 4/56	I; 5 hr. weekly for 4 wk. Wednesdays	100
26 P 04621	Office and General Obstetrics [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	2/ 1/56	I; 5 hr. weekly for 4 wk. Wednesdays	100
26 P 01625	Course I—Obstetrics [5, 200]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	75	Laboratory work Clinical case work	2/27/56	C; 2 wk.	150
26 P 04624	Surgical Obstetrics [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	3/ 7/56	I; 5 hr. weekly for 4 wk. Wednesdays	100
26 P 01626	Course I—Obstetrics [5, 200]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	75	Laboratory work Clinical case work	3/20/56	C; 2 wk.	150
26 P 01627	Course I—Obstetrics [5, 200]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	75	Laboratory work Clinical case work	5/ 7/56	C; 2 wk.	150
26 P 04620	Office and General Obstetrics [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Laboratory work Clinical case work	5/23/56	I; 5 hr. weekly for 4 wk. Wednesdays	100
26 P 01825	Obstetrics and Gynecology Postgraduate Course [204]	State University of Iowa College of Medicine University Hospital Iowa City	R	B	11	Clinical case work Small group discussion	11/ 4/55	C; 1½ days	15

References will be found on pages 1129-1131.

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		26. OBSTETRICS—Continued							
26 P 02023	Clinical Obstetrics [310, 87]	Boston Lying-in Hospital 221 Longwood Ave., Boston	R	B	120	Clinical case work Small group discussion	10/ 3/55	C; 4 wk.	150
26 P 02024	Clinical Obstetrics [310, 87]	Boston Lying-in Hospital 221 Longwood Ave., Boston	R	B	120	Clinical case work Small group discussion	11/ 1/55	C; 4 wk.	150
26 P 02006	Pathology of Obstetrics and Gynecology [112, 310]	Free Hospital for Women Cumberland Avenue, Brookline, Mass.	S	S	120	Laboratory work Lecture or panel	1/ 5/56	I; 6 hr. weekly for 5 mo. Thursdays	150
26 P 02025	Clinical Obstetrics [310, 87]	Boston Lying-in Hospital 221 Longwood Ave., Boston	R	B	120	Clinical case work Small group discussion	4/ 2/56	C; 4 wk.	150
26 P 02026	Clinical Obstetrics [310, 87]	Boston Lying-in Hospital 221 Longwood Ave., Boston	R	B	120	Clinical case work Small group discussion	5/ 1/56	C; 4 wk.	150
26 P 02310	Obstetrics for General Physicians [83, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Lecture or panel	1/ 5/56	C; 3 days	25
26 P 03134	Obstetrics and Gynecology Including Manikin Obstetrics and Operative Gynecology on the Cadaver	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	400	Laboratory work Clinical case work	10/ 3/55	C; 8 wk.	250
26 P 03340	5610-A X-Ray Diagnosis in Obstetrics and Gynecology [117]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	35	Lecture or panel Demonstration	11/14/55	C; 5 days	75
26 P 03332	564-A Infertility [120]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	21	Laboratory work Lecture or panel	12/ 5/55	C; 3 days	40
26 P 02161	Obstetrics [121]	Dept. of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich.	R	B	24	Lecture or panel Demonstration	1/56	C; 3 days	50
26 P 02686	Obstetrics and Gynecology PM 30—Newer Developments in Obstetrics and Gynecology [118]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	90	Small group discussion Demonstration	3/ 5/56	C; 3 wk.	150
26 P 03518	Obstetrics [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	14	Clinical case work Small group discussion	3/ 7/56	C; 2 days	30
26 P 03136	Obstetrics and Gynecology Including Manikin Obstetrics and Operative Gynecology on the Cadaver	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	400	Laboratory work Clinical case work	4/ 2/56	C; 8 wk.	250
26 P 03143	Manikin Obstetrics	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	12	Laboratory work Clinical case work	Arranged	Specially arranged	100
26 P 03145	Clinical and Office Obstetrics	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	80	Laboratory work Clinical case work	Arranged	Specially arranged	100
26 P 02664	Obstetrics PM 80—Internship Training	Margaret Hague Maternity Hospital 88 Clifton Place, Jersey City, N. J.	R	G	500	Clinical case work Lecture or panel	Arranged	3 mo. full time specially arranged	350
26 P 02665	Obstetrics PM 81—Observation Course	Margaret Hague Maternity Hospital 88 Clifton Place, Jersey City, N. J.	R	G	160	Clinical case work Lecture or panel	Arranged	1 mo. full time specially arranged	100
26 P 03559	Postgraduate Course in Obstetrics-Pediatrics [227, 207]	The Bowman Gray School of Medicine of Wake Forest College Winston-Salem, N. C.	S	G	15	Clinical case work Lecture or panel	4/15/56	C; 3 days	Nil
26 P 04160	Obstetrics and Gynecology	The University of Texas Postgraduate School of Medicine, Texas Medical Center Houston, Texas	R	G	18	Lecture or panel	8/55	I; 2 hr. (twice weekly for 1 mo. Tuesdays, Fridays	25
26 P 04174	Common Problems in Obstetrics and Pediatrics [206, 207]	The University of Texas Postgraduate School of Medicine, Lubbock Division 2909 19th St., Lubbock, Texas	R	G	10	Lecture or panel	10/12/55	I; 2½ hr. weekly for 4 wk. Wednesdays	15

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26 P 04292	Obstetrics and Gynecology	University of Washington School of Medicine Health Sciences Building, Seattle	R	B	15	Lecture or panel Demonstration	Spring, 1956	C; 2 days	20
26 P 04422	Refresher Course for General Practitioners [251]	Vancouver General Hospital Vancouver, British Columbia, Canada	R	G	18	Lecture or panel Theatre clinics	3/26/56	C; 3 days	15
		27. OPHTHALMOLOGY							
27 P 01207	Ophthalmological Conference [5]	University of California Medical Center, Dept. of Ophthalmology San Francisco 22	S	S	18	Laboratory work Clinical case work	12/ 5/55	C; 3 days	To be announced
27 P 01263	Postgraduate Seminar in Ophthalmology	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	R	S	30	Lecture or panel Demonstration	7/56	C; 4 days	40
27 P 01373	Midwinter Seminar in Ophthalmology and Otolaryngology [5, 234, 253]	Hotel San Souci Miami Beach, Fla.	R	S	30	Lecture or panel	1/16/56	C; 6 days	40
27 P 01768	Extraocular Muscles [122]	Northwestern University Medical School 303 E. Chicago Ave., Chicago 11	S	S	24	Clinical case work Lecture or panel	9/55	C; 2 wk.	100
27 P 01528	Chicago Ophthalmological Society Eighth Clinical Conference [85]	Drake Hotel (probably) Michigan and Walton, Chicago	R	S	20	Lecture or panel	2/56	C; 2 days	35
27 P 04628	Clinical Ophthalmology [5, 204]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	50	Clinical case work Small group discussion	Arranged	C; 2 wk.	50
27 P 01769	Extraocular Muscles [122]	Northwestern University Medical School 303 E. Chicago Ave., Chicago 11	S	S	250	Clinical case work Lecture or panel	Variable	Specially arranged	150
27 P 01875	Ophthalmology and Otolaryngology [123]	University of Kansas Medical Center 39th and Rainbow Blvd. Kansas City 12, Kan.	S	B	30	Clinical case work Lecture or panel	4/ 9/56	C; 5 days	60
27 P 02094	Lancaster Courses in Basic Ophthalmology [121, 5, 16]	Colby College Waterville, Maine	S	B	425	Laboratory work Small group discussion	6/25/55	C; 12 wk.	325
27 P 02228	Basic Ophthalmology [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	1,400	Laboratory work Lecture or panel	9/55	C; 9 mo.	500
27 P 02172	Ophthalmology [125]	Dept. of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	S	24	Lecture or panel Demonstration	4/23/56	C; 3 days	50
27 P 02302	Ophthalmology and Otolaryngology for General Physicians [35, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Lecture or panel	2/27/56	C; 3 days	25
27 P 02388	Pathology of the Eye [126]	Washington University School of Medicine 660 South Kingshighway, St. Louis 10	S	B	40	Small group discussion Lecture or panel	9/12/55	C; 5 days	150
27 P 03351	5711-A Ophthalmoscopy [19]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	15	Lecture or panel Kodachrome slides	9/26/55	I; 3 hr. daily for 1 wk. Monday-Friday	50
27 P 03352	5718-A Ocular Therapeutics [19]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	15	Lecture or panel	9/26/55	I; 3 hr. daily for 1 wk. Monday-Friday	50
27 P 03349	578-A Ocular Expressions of Systemic Disease [64]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	15	Lecture or panel	10/10/55	I; 3 hr. daily for 1 wk. Monday-Friday	50
27 P 03353	5714-A Histopathology [127]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	15	Laboratory work Lecture or panel	10/10/55	I; 3 hr daily for 1 wk. Monday-Friday	100
27 P 02688	Ophthalmology PM 62—Glaucoma [128]	Montefiore Hospital East Gun Hill Road, New York 67	S	S	16	Clinical case work Lecture or panel	10/17/55	I; 2 hr. weekly for 8 wk. Mondays	30
27 P 02856	Ophthalmology PM 62—Glaucoma [129]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	16	Clinical case work Small group discussion Demonstration	10/17/55	I; 2 hr. weekly for 8 wk. Mondays	30
27 P 03346	574-A Surgery of the Eye [130]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	42	Lecture or panel Cadaver	10/24/55	C; 6 days	100
27 P 03348	575-A Differential Diagnosis with the Slit Lamp [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	20	Lecture or panel Demonstration	10/31/55	I; 4 hr. daily for 1 wk. Monday-Friday	75

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		27. OPHTHALMOLOGY—Continued							
27 P 03502	Review Course in Ophthalmology [45, 5]	State University of New York, Upstate Medical Center 766 Irving Ave., Syracuse, N. Y.	R	S	12	Lecture or panel	11/10/55	C; 2 days	25
27 P 02666	Ophthalmology PM 60—Elementary Ophthalmoscopy	Montefiore Hospital East Gun Hill Road, New York 67	R	G	18	Clinical case work Lecture or panel	1/11/56	I; 2 hr. weekly for 9 wk. Wednesdays	30
27 P 02851	Ophthalmology PM 60—Elementary Ophthalmoscopy [58]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	16	Laboratory work Clinical case work Small group discussion	1/11/56	I; 2 hr. weekly for 8 wk. Wednesdays	30
27 P 03850	579-A Neuro-Ophthalmology [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	15	Lecture or panel	1/16/56	I; 3 hr. daily for 1 wk. Monday-Friday	50
27 P 03843	571-A Motor Anomalies of the Eye (Part 1) [130]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	42	Lecture or panel Demonstration	3/ 5/56	C; 6 days	90
27 P 03844	572-A Motor Anomalies of the Eye (Part 2) [130]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	75	Lecture or panel Examination of patients	3/12/56	C; 5 days	75
27 P 03847	574-B Surgery of the Eye [130]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	42	Lecture or panel Cadaver	3/19/56	C; 6 days	100
27 P 02687	Ophthalmology PM 61—Perimetry	Montefiore Hospital East Gun Hill Road, New York 67	S	S	14	Laboratory work Lecture or panel	4/ 2/56	I; 2 hr. weekly for 7 wk. Mondays	30
27 P 02855	Ophthalmology PM 61—Perimetry [95]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	14	Clinical case work Small group discussion Demonstration	4/ 2/56	I; 2 hr. weekly for 7 wk. Mondays	30
27 P 03845	573-A Ophthalmic Plastic Surgery [19]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	15	Lecture or panel Demonstration	4/ 2/56	C; 5 days	75
27 P 02797	External Eye Diseases and Ophthalmoscopy [7, 8]	Jewish Chronic Disease Hospital Brooklyn, N. Y.	R	G	16	Clinical case work Lecture or panel Demonstration	4/56	I; 2 hr. weekly for 8 wk. Fridays	30
27 P 02903	Histopathology of the Eye 68A2 [16, 64]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	B	24	Small group discussion Lecture or panel	5/16/56	Specially arranged	100
27 P 02902	Neuro-Ophthalmology 68D5 [117]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	16	Clinical case work	Inquire	I; 2 hr. twice weekly for 4 wk. Tuesdays, Fridays	100
27 P 02904	External Diseases of the Eye 68A3 [16, 131]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	18	Lecture or panel Demonstration	Inquire	Specially arranged	75
27 P 02905	Physiological Optics in Clinical Practice 68A4 [16, 92]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	36	Clinical case work Small group discussion	Inquire	Specially arranged	100
27 P 02907	Anomalies of Extraocular Muscles 68A6 [16, 132]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	16	Clinical case work Small group discussion	Inquire	Specially arranged	75
27 P 02908	Plastic Eye Surgery 68A5 [232]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	26	Clinical case work Operative surgery	Inquire	Specially arranged	150
27 P 02909	Slit Lamp Microscopy 68A7 [16, 132]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	16	Clinical case work Small group discussion	Inquire	Specially arranged	100
27 P 02910	Ophthalmoscopy 68A8 [132]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	16	Clinical case work Small group discussion	Inquire	Specially arranged	75
27 P 02911	Indirect Ophthalmoscopy 68A8 [23]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	16	Clinical case work Small group discussion	Inquire	Specially arranged	75
27 P 02912	Glaucoma 68A9 [131, 16]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	16	Clinical case work Small group discussion	Inquire	Specially arranged	75
27 P 02913	Operative Eye Surgery 68A10 [92]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	24	Clinical case work Operative surgery	Inquire	Specially arranged	150

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27 P 02914	Refraction 68A11 [130]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	48	Clinical case work Small group discussion	Inquire	Specially arranged	100
27 P 02915	Perimetry 68A12 [132]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	16	Clinical case work Small group discussion	Inquire	Specially arranged	75
27 P 03118	Refraction	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	160	Laboratory work Clinical case work	Arranged	Specially arranged	100
27 P 03121	Operative Ophthalmology (Dissection)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	8	Laboratory work Operative surgery	Arranged	Specially arranged	100
27 P 03120	Ophthalmology, Including Cadaver Ophthalmology and Refraction	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	480	Laboratory work Clinical case work	Arranged	Specially arranged	300
27 P 03122	Motor Anomalies	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	8	Laboratory work Clinical case work	Arranged	Specially arranged	50
27 P 03126	Clinical Ophthalmology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	480	Laboratory work Clinical case work	Arranged	Specially arranged	125
27 P 03131	Clinical Ophthalmology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	180	Laboratory work Clinical case work	Arranged	Specially arranged	75
27 P 04167	Ocular Motor Anomalies	The University of Texas Postgraduate School of Medicine, Texas Medical Center Houston, Texas	R	B	24	Lecture or panel	2/56	C; 3 days	Unknown
27 P 04462	Eye Surgery Refresher Course [153]	University of Toronto Toronto 5, Canada	R	S	24	Operative surgery Small group discussion	3/26/56	C; 2 days	25

28. ORTHOPEDICS

28 P 01000	Traumatic and Minor Orthopedic Surgery [64]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	G	37½	Small group discussion Lecture or panel	10/ 4/55	I; 1¼ hr. twice weekly for 12½ wk. Tuesdays, Thursdays	75
28 P 01140	Poliomyelitis [5]	Orthopaedic Hospital 2400 S. Flower St., Los Angeles	R	B	24	Lecture or panel Demonstration	10/55	C; 3 days	15
28 P 01104	Diseases and Injuries of Bones and Joints [67]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	120	Small group discussion Demonstration	7/ 3/56	C; 4 wk.	100
28 P 01139	Poliomyelitis [5]	Orthopaedic Hospital 2400 S. Flower St., Los Angeles	R	B	24	Lecture or panel Demonstration	5/56	C; 3 days	15
28 P 01256	Fractures and Joint Injuries	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	R	G	20	Lecture or panel Demonstration	10/20/55	C; 3 days	30
28 P 01493	Malignant Bone Tumors—Symptomatology, Diagnosis, Treatment, and Prognosis	American College of Surgeons (Clinical Congress) 40 E. Erie St., Chicago 11	R	S	12	Lecture or panel	10/31/55	I; 8 hr. daily for 4 days	5
28 P 01478	Instructional Courses in Orthopedic Surgery [270]	Palmer House Chicago	R	S	126	Unknown	1/28/56	C; 4 days	10
28 P 02022	Treatment of Fractures and Other Traumatic Conditions [210, 214]	Massachusetts General Hospital Fruit Street, Boston	R	B	46	Small group discussion Lecture or panel	10/24/55	C; 1 wk.	150
28 P 02000	Poliomyelitis Refresher Course for Physicians [149]	Children's Medical Center 300 Longwood Ave., Boston	R	B	40	Demonstration	6/56	C; 5 days	50
28 P 02001	Poliomyelitis Refresher Course for Physicians [149]	Children's Medical Center 300 Longwood Ave., Boston	R	B	40	Demonstration	8/56	C; 5 days	50
28 P 02037	Orthopedic Surgery 1 [197, 230]	Children's Hospital 300 Longwood Ave., Boston	S	S	Unknown	Clinical case work Small group discussion	Arranged	Specially arranged for 12 mo.	800
28 P 02038	Orthopedic Surgery 2 [197, 216]	Massachusetts General Hospital Fruit Street, Boston	S	S	Unknown	Clinical case work Small group discussion	Arranged	Specially arranged for 12 mo.	800
28 P 02667	Orthopedic Surgery PM 80—Survey of Diseases of Children [252]	Hospital for Joint Diseases 1919 Madison Ave., New York	R	G	66	Clinical case work Lecture or panel	2/16/56	I; 6 hr. weekly for 11 wk. Thursdays	100
28 P 02965	Orthopedics in General Practice DP1026	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	Unknown	Unknown	Anytime	C; 1 wk.	60

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		28. ORTHOPEDICS—Continued							
28 P 02966	Orthopedics of the Foot DF1036	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	S	Unknown	Laboratory work Small group discussion	Anytime	Specially arranged	100
28 P 03354	582-A Orthopedics in General Practice [19]	New York University Post-Graduate Medical School 550 First Ave., New York	R	G	21	Clinical case work Conferences	Unknown	C; 3 days	50
28 P 03355	583-A Anatomy for Orthopedic Surgeons [120]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	35	Cadaver	Unknown	C; 5 days	90
28 P 03163	Orthopedic Surgery for General Surgeons	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	320	Laboratory work Clinical case work	Arranged	Specially arranged	100
28 P 03164	Operative Orthopedics (Dissection)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	10	Laboratory work Clinical case work	Arranged	Specially arranged	100
28 P 03165	Advanced Orthopedics of the Foot	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	8	Laboratory work Clinical case work	Arranged	Specially arranged	100
		29. OTOLARYNGOLOGY							
29 P 01069	Otolaryngology [120]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	G	12	Lecture or panel	2/ 7/56	I; 1½ hr. weekly for 8 wk. Tuesdays	30
29 P 01373	Midwinter Seminar in Ophthalmology and Otolaryngology [5, 284, 252]	Hotel San Souci Miami Beach, Fla.	R	S	30	Lecture or panel	1/16/56	C; 6 days	40
29 P 01790	Annual Otolaryngologic Assembly [57]	University of Illinois College of Medicine 1853 W. Polk St., Chicago 12	R	S	76	Laboratory work Operative surgery	9/19/55	C; 2 wk.	175
29 P 01791	Bronchoesophagology [103]	University of Illinois College of Medicine 1853 W. Polk St., Chicago 12	S	S	84	Laboratory work Clinical case work	10/24/55	C; 2 wk.	150
29 P 01767	Endaural Otologic Surgery [5, 9]	Northwestern University Medical School 303 E. Chicago Ave., Chicago 11	S	S	160	Laboratory work Small group discussion	4/56	C; 4 wk.	500
29 P 01770	Audiology [5, 134]	Northwestern University Medical School 303 E. Chicago Ave., Chicago 11	R	S	40	Laboratory work Small group discussion	5/56	C; 1 wk.	100
29 P 01792	Bronchoesophagology [103]	University of Illinois College of Medicine 1853 W. Polk St., Chicago 12	S	S	84	Laboratory work Clinical case work	Spring, 1956	C; 2 wk.	150
29 P 01760	Fellowship Fenestration Surgery [5, 12]	Northwestern University Medical School 303 E. Chicago Ave., Chicago 11	S	S	960	Laboratory work Clinical case work	Anytime	Specially arranged	500
29 P 04627	Clinical Otolaryngology [5, 205]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	50	Clinical case work Small group discussion	Arranged	C; 2 wk.	50
29 P 01870	Hearing and Speech Conference	University of Kansas Medical Center 39th and Rainbow Blvd. Kansas City 12, Kan.	S	S	9	Clinical case work Lecture or panel Demonstration	2/24/56	C; 2 days	3
29 P 01875	Ophthalmology and Otolaryngology [129]	University of Kansas Medical Center 39th and Rainbow Blvd. Kansas City 12, Kan.	S	B	30	Clinical case work Lecture or panel	4/ 9/56	C; 5 days	60
29 P 02171	Otolaryngology [52]	Dept. of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	S	18	Lecture or panel Demonstration	4/56	C; 3 days	50
29 P 02302	Ophthalmology and Otolaryngology for General Physicians [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Lecture or panel	2/27/56	C; 3 days	25
29 P 02091	Otorhinolaryngology PM 32—Trans-Meatal Surgery	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	72	Laboratory work Clinical case work	9/12/55	I; 4 hr. twice weekly for 9 wk. Mondays, Wednesdays	150
29 P 03359	596-A Anatomy of the Head, Neck, and Thorax for Otolaryngologists [117]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	90	Small group discussion Cadaver	9/26/55	I; 3 hr. daily for 6 wk. Monday-Friday	125

29 P 03116	Otolaryngology and Ophthalmology Including Cadaver EENT and Refraction	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	480	Laboratory work Clinical case work	10/ 3/55	C; 12 wk.	600
29 P 03356	594-A Endaural Surgery [135]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	70	Lecture or panel Demonstration	11/ 7/55	C; 10 days	200
29 P 03360	5910-A Laryngology and Surgery of the Larynx and Neck [135]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	70	Lecture or panel Cadaver dissection	1/ 9/56	C; 10 days	200
29 P 03357	594-B Endaural Surgery [135]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	70	Lecture or panel Demonstration	1/30/56	C; 10 days	200
29 P 03358	595-A Endoscopy; Bronchoesophagology and Laryngology [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	35	Small group discussion Lecture or panel	2/ 6/56	C; 5 days	100
29 P 02692	Otorhinolaryngology PM 33—Combined Course in Laryngoscopy, Voice and Speech Therapy and Audiology	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	B	42	Clinical case work Small group discussion	2/13/56	C; 6 days	150
29 P 03117	Otolaryngology and Ophthalmology, Including Cadaver EENT and Refraction	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	480	Laboratory work Clinical case work	4/ 2/56	C; 12 wk.	600
29 P 02689	Otolaryngology PM 2—Histopathology of the Ear, Nose and Throat	Columbia-Presbyterian Medical Center 630 W. 168th St., New York	S	S	32	Laboratory work	4/10/56	I; 2 hr. twice weekly for 8 wk. Tuesdays, Thursdays	100
29 P 02702	Otorhinolaryngology PM 31—Rhinoplasty and Otoplasty	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	140	Laboratory work Operative surgery	7/14/56	C; 2 wk.	300
29 P 02690	Otorhinolaryngology PM 31—Rhinoplasty and Otoplasty	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	140	Laboratory work Clinical case work	7/16/56	C; 2 wk.	250
29 P 02917	Broncho-Esophagology and Laryngeal Surgery 68B1 [29]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	88	Operative surgery Small group discussion	Inquire	C; 11 days	250
29 P 02918	Allergy of the Eyes and Upper Respiratory Tract 68B2 [87]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	25	Clinical case work	Inquire	C; 2 wk.	150
29 P 02919	Rehabilitation of the Hard of Hearing 68B5 [91]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	32	Lecture or panel Demonstration	Inquire	C; 4 days	75
29 P 02920	The Conservative Management of Acute Sinusitis and Chronic Rhinitis 68B6 [121]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	48	Clinical case work Operative surgery	Inquire	C; 6 days	75
29 P 02922	Clinical Physio-Pathology of the Ear 68B10 [126]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	Unknown	Small group discussion Lecture or panel	Unknown	C; 4 wk.	100
29 P 03124	Operative Nose and Throat Dissection	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	18	Operative surgery Demonstration	Arranged	Specially arranged	150
29 P 03125	Head and Neck Dissection	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	18	Laboratory work Head and neck dissection	Arranged	Specially arranged	150
29 P 03127	Clinical Otolaryngology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	480	Laboratory work Clinical case work	Arranged	Specially arranged	150
29 P 03129	Operative Otology (Cadaver)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	12	Laboratory work Small group discussion	Arranged	Specially arranged	100
29 P 03130	Surgical Anatomy of Nose and Accessory Sinuses	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	18	Laboratory work Clinical case work	Arranged	Specially arranged	150
29 P 03132	Clinical Otolaryngology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	180	Laboratory work Clinical case work	Arranged	Specially arranged	100
29 P 03915	Bronchology, Esophagology and Laryngeal Surgery	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	S	80	Operative surgery Small group discussion	To be announced	C; 2 wk.	250
29 P 03914	Bronchology, Esophagology, and Laryngeal Surgery [121]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	S	80	Operative surgery Small group discussion	To be announced	C; 2 wk.	250
29 P 04252	Gill Memorial Eye, Ear, Nose, and Throat Hospital Annual Spring Congress [127, 8, 129, 139]	Gill Memorial Eye, Ear, Nose, and Throat Hospital 711 S. Jefferson St., Roanoke, Va.	R	S	27	Lecture or panel Demonstration	4/ 2/56	C; 3 days	40

References will be found on pages 1129-1131.

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		28. ORTHOPEDICS—Continued							
28 P 02966	Orthopedics of the Foot DF1036	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	S	Unknown	Laboratory work Small group discussion	Anytime	Specially arranged	100
28 P 03354	582-A Orthopedics in General Practice [19]	New York University Post-Graduate Medical School 550 First Ave., New York	R	G	21	Clinical case work Conferences	Unknown	C; 3 days	50
28 P 03355	583-A Anatomy for Orthopedic Surgeons [120]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	35	Cadaver	Unknown	C; 5 days	90
28 P 03163	Orthopedic Surgery for General Surgeons	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	320	Laboratory work Clinical case work	Arranged	Specially arranged	100
28 P 03164	Operative Orthopedics (Dissection)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	10	Laboratory work Clinical case work	Arranged	Specially arranged	100
28 P 03165	Advanced Orthopedics of the Foot	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	8	Laboratory work Clinical case work	Arranged	Specially arranged	100
		29. OTOLARYNGOLOGY							
29 P 01099	Otolaryngology [120]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	G	12	Lecture or panel	2/ 7/56	I; 1½ hr. weekly for 8 wk. Tuesdays	30
29 P 01373	Midwinter Seminar in Ophthalmology and Otolaryngology [5, 284, 282]	Hotel San Souci Miami Beach, Fla.	R	S	30	Lecture or panel	1/16/56	C; 6 days	40
29 P 01790	Annual Otolaryngologic Assembly [57]	University of Illinois College of Medicine 1853 W. Polk St., Chicago 12	R	S	76	Laboratory work Operative surgery	9/19/55	C; 2 wk.	175
29 P 01791	Bronchoesophagology [103]	University of Illinois College of Medicine 1853 W. Polk St., Chicago 12	S	S	84	Laboratory work Clinical case work	10/24/55	C; 2 wk.	150
29 P 01767	Endaural Otologic Surgery [5, 9]	Northwestern University Medical School 303 E. Chicago Ave., Chicago 11	S	S	160	Laboratory work Small group discussion	4/56	C; 4 wk.	500
29 P 01770	Audiology [6, 134]	Northwestern University Medical School 303 E. Chicago Ave., Chicago 11	R	S	40	Laboratory work Small group discussion	5/56	C; 1 wk.	100
29 P 01792	Bronchoesophagology [103]	University of Illinois College of Medicine 1853 W. Polk St., Chicago 12	S	S	84	Laboratory work Clinical case work	Spring, 1956	C; 2 wk.	150
29 P 01766	Fellowship Fenestration Surgery [5, 18]	Northwestern University Medical School 303 E. Chicago Ave., Chicago 11	S	S	960	Laboratory work Clinical case work	Anytime	Specially arranged	500
29 P 04627	Clinical Otolaryngology [5, 205]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	50	Clinical case work Small group discussion	Arranged	C; 2 wk.	50
29 P 01870	Hearing and Speech Conference	University of Kansas Medical Center 39th and Rainbow Blvd. Kansas City 12, Kan.	S	S	9	Clinical case work Lecture or panel Demonstration	2/24/56	C; 2 days	3
29 P 01875	Ophthalmology and Otolaryngology [128]	University of Kansas Medical Center 39th and Rainbow Blvd. Kansas City 12, Kan.	S	B	30	Clinical case work Lecture or panel	4/ 9/56	C; 5 days	60
29 P 02171	Otolaryngology [52]	Dept. of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	S	18	Lecture or panel Demonstration	4/56	C; 3 days	50
29 P 02302	Ophthalmology and Otolaryngology for General Physicians [32, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Lecture or panel	2/27/56	C; 3 days	25
29 P 02691	Otorhinolaryngology PM 32—Trans-Meatal Surgery	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	72	Laboratory work Clinical case work	9/12/55	I; 4 hr. twice weekly for 9 wk. Mondays, Wednesdays	150
29 P 03359	596-A Anatomy of the Head, Neck, and Thorax for Otolaryngologists [117]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	90	Small group discussion Cadaver	9/26/55	I; 3 hr. daily for 6 wk. Monday-Friday	125

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29 P 08116	Otolaryngology and Ophthalmology Including Cadaver EENT and Refraction	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	480	Laboratory work Clinical case work	10/ 3/55	C; 12 wk.	600
29 P 08356	594-A Endaural Surgery [125]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	70	Lecture or panel Demonstration	11/ 7/55	C; 10 days	200
29 P 08360	5910-A Laryngology and Surgery of the Larynx and Neck [125]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	70	Lecture or panel Cadaver dissection	1/ 9/56	C; 10 days	200
29 P 08357	594-B Endaural Surgery [125]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	70	Lecture or panel Demonstration	1/30/56	C; 10 days	200
29 P 08358	595-A Endoscopy; Bronchoesophagology and Laryngology [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	35	Small group discussion Lecture or panel	2/ 6/56	C; 5 days	100
29 P 02692	Otorhinolaryngology PM 33—Combined Course in Laryngoscopy, Voice and Speech Therapy and Audiology	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	B	42	Clinical case work Small group discussion	2/13/56	C; 6 days	150
29 P 08117	Otolaryngology and Ophthalmology, Including Cadaver EENT and Refraction	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	480	Laboratory work Clinical case work	4/ 2/56	C; 12 wk.	600
29 P 02689	Otolaryngology PM 3—Histopathology of the Ear, Nose and Throat	Columbia-Presbyterian Medical Center 630 W. 168th St., New York	S	S	32	Laboratory work	4/10/56	I; 2 hr. twice weekly for 8 wk. Tuesdays, Thursdays	100
29 P 02702	Otorhinolaryngology PM 31—Rhinoplasty and Otoplasty	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	140	Laboratory work Operative surgery	7/14/56	C; 2 wk.	300
29 P 02690	Otorhinolaryngology PM 31—Rhinoplasty and Otoplasty	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	140	Laboratory work Clinical case work	7/16/56	C; 2 wk.	250
29 P 02917	Broncho-Esophagology and Laryngeal Surgery 68B1 [28]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	88	Operative surgery Small group discussion	Inquire	C; 11 days	250
29 P 02918	Allergy of the Eyes and Upper Respiratory Tract 68B2 [87]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	25	Clinical case work	Inquire	C; 2 wk.	150
29 P 02919	Rehabilitation of the Hard of Hearing 68B5 [93]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	32	Lecture or panel Demonstration	Inquire	C; 4 days	75
29 P 02920	The Conservative Management of Acute Sinusitis and Chronic Rhinitis 68B6 [121]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	48	Clinical case work Operative surgery	Inquire	C; 6 days	75
29 P 02922	Clinical Physio-Pathology of the Ear 68B10 [126]	The New York Eye and Ear Infirmary 218 Second Ave., New York	S	S	Unknown	Small group discussion Lecture or panel	Unknown	C; 4 wk.	100
29 P 03124	Operative Nose and Throat Dissection	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	18	Operative surgery Demonstration	Arranged	Specially arranged	150
29 P 03125	Head and Neck Dissection	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	18	Laboratory work Head and neck dissection	Arranged	Specially arranged	150
29 P 03127	Clinical Otolaryngology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	480	Laboratory work Clinical case work	Arranged	Specially arranged	150
29 P 03129	Operative Otology (Cadaver)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	12	Laboratory work Small group discussion	Arranged	Specially arranged	100
29 P 03130	Surgical Anatomy of Nose and Accessory Sinuses	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	18	Laboratory work Clinical case work	Arranged	Specially arranged	150
29 P 03132	Clinical Otolaryngology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	180	Laboratory work Clinical case work	Arranged	Specially arranged	100
29 P 03915	Bronchology, Esophagology and Laryngeal Surgery	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	S	80	Operative surgery Small group discussion	To be announced	C; 2 wk.	250
29 P 08914	Bronchology, Esophagology, and Laryngeal Surgery [191]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	S	80	Operative surgery Small group discussion	To be announced	C; 2 wk.	250
29 P 04252	Gill Memorial Eye, Ear, Nose, and Throat Hospital Annual Spring Congress [127, 6, 128, 129]	Gill Memorial Eye, Ear, Nose, and Throat Hospital 711 S. Jefferson St., Roanoke, Va.	R	S	27	Lecture or panel Demonstration	4/ 2/56	C; 3 days	40

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		30. PATHOLOGY							
30 P 01088	General and Surgical Pathology [64, 16]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	186	Laboratory work Lecture or panel	10/ 4/55	I; 6 hr. weekly for 31 wk. Tuesdays, Thursdays	175
30 P 04557	Forensic Pathology [8, 52]	Armed Forces Institute of Pathology, Walter Reed Army Medical Center Washington 25, D. C.	S	B	40	Lecture or panel Demonstration	11/14/55	C; 5 days	Nil
30 P 04558	Ophthalmic Pathology [8, 27]	Armed Forces Institute of Pathology, Walter Reed Army Medical Center Washington 25, D. C.	S	B	40	Lecture or panel Demonstration	3/19/56	C; 5 days	Nil
30 P 04559	Pathology of the Oral Regions [8, 141]	Armed Forces Institute of Pathology, Walter Reed Army Medical Center Washington 25, D. C.	S	B	40	Lecture or panel	3/26/56	C; 5 days	Nil
30 P 04567	Application of Histochemistry to Pathology [8, 52]	Armed Forces Institute of Pathology, Walter Reed Army Medical Center Washington 25, D. C.	S	B	24	Lecture or panel Demonstration	5/ 7/56	C; 3 days	Nil
30 P 01579	Surgical Pathology [117, 8]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	48	Laboratory work Small group discussion	Arranged	C; 2 wk.	150
30 P 02218	Beginning Hematology [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Laboratory work Lecture or panel	9/55	I; 4 hr. weekly for 11 wk	50
30 P 02219	Dermatopathology [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Laboratory work Small group discussion	Unknown	I; 4 hr. weekly for 11 wk.	50
30 P 02245	Cystodiagnosis of Cancer [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Laboratory work Lecture or panel	Unknown	I; 4 hr. weekly for 11 wk.	50
30 P 02232	Bone and Joint Diseases [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Lecture or panel	Unknown	I; 4 hr. weekly for 11 wk.	50
30 P 02233	Neuropathology [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Laboratory work Lecture or panel	Unknown	I; 4 hr. weekly for 11 wk.	50
30 P 02246	Histopathology of Ear, Nose and Throat [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Lecture or panel	Unknown	I; 2 hr. weekly for 11 wk.	25
30 P 02231	Advanced Hematology [16, 128]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Laboratory work Lecture or panel	Unknown	I; 4 hr. weekly for 11 wk.	50
30 P 02439	Pediatrics [8, 144, 145, 146]	Seton Hall University South Orange, N. J.	S	B	36	Lecture or panel Demonstration	11/55	I; 2 hr. weekly for 18 wk. Wednesdays	25
30 P 08362	442-A Surgical Pathology [147]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	60	Lecture or panel Demonstration	9/20/55	I; 2 hr. twice weekly for 15 wk. Tuesdays, Thursdays	200
30 P 02668	Pathology PM 30—General and Special Pathology [150]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	32	Laboratory work	9/24/55	I; 2 hr. weekly for 16 wk. Saturdays	100
30 P 08363	443-A Principles of Pathology [151]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	72	Lecture or panel Demonstration	9/26/55	I; 3 hr. twice weekly for 12 wk. Mondays	100
30 P 02669	Pathology PM 31—Surgical Pathology [108]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	30	Laboratory work	1/21/56	I; 2 hr. weekly for 15 wk. Saturdays	100
30 P 08361	441-A Gynecological Pathology [147]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	32	Lecture or panel Demonstration	1/24/56	I; 2 hr. twice weekly for 8 wk. Tuesdays, Thursdays	100
30 P 02795	Gynecological and Obstetrical Pathology [7, 152]	State University of New York College of Medicine Brooklyn, N. Y.	S	S	30	Lecture or panel Individual	3/56	I; 3 hr. weekly for 10 wk. Thursdays	100
30 P 02968	Pathology DPA1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	B	Unknown	Laboratory work Small group discussion	Anytime	Specially arranged	200
30 P 02969	Clinical Pathology DCP1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	B	26	Laboratory work Small group discussion	Anytime	Specially arranged	100
30 P 08110	Surgical Pathology (A)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	360	Laboratory work Clinical case work	Arranged	Specially arranged	300
30 P 08111	Blood Transfusions (D)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	80	Laboratory work Clinical case work	Arranged	Specially arranged	100

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30 P 03112	Urological Pathology (B)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	30	Laboratory work Clinical case work	Arranged	Specially arranged	150
30 P 03113	Gynecological and Obstetrical Pathology (C)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	30	Laboratory work Clinical case work	Arranged	Specially arranged	100
30 P 03114	General Pathology (E)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	2,080	Laboratory work Clinical case work	Arranged	Specially arranged	1,000
30 P 03115	Surgical Pathology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	160	Laboratory work Clinical case work	Arranged	Specially arranged	100
30 P 04171	Clinical Pathological Conference [208]	The University of Texas Postgraduate School of Medicine, San Angelo Division 219 South Magdalen, San Angelo, Texas	R	B	9	Lecture or panel	9/11/55	I; 1 hr. monthly for 9 mo. Sundays	5
30 P 04180	Surgical Pathology and Pathologic Anatomy [18, 206]	The University of Texas Postgraduate School of Medicine, Temple Division, Scott and White (Clinic) Hospitals Temple, Texas	R	S	88	Laboratory work Small group discussion	Arranged	Specially arranged	25
30 P 01380	Pathology Seminar [380]	Veterans Hospital and Memorial Hospital Cheyenne, Wyo.	R	G	20	Clinical case work Lecture or panel	Arranged	C; 3 wk.	Nil
		31. PEDIATRICS							
31 P 01219	864: Pediatric Clinics for the General Practitioner [182]	Childrens Hospital of Los Angeles 5014 Sunset Blvd., Los Angeles 27	R	G	20	Demonstration	Unknown	I; 1 hr. weekly for 20 wk. Tuesdays	40
31 P 01305	Pediatrics	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	R	B	24	Small group discussion Lecture or panel	4/56	C; 3 days	30
31 P 01708	The Diagnosis and Treatment of Congenital and Rheumatic Heart Disease in Infants and Children	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	24	Laboratory work Clinical case work	9/21/55	I; 2 hr. weekly for 12 wk. Wednesdays	100
31 P 01721	General Pediatrics [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	S	20	Clinical case work Small group discussion	9/21/55	I; 2 hr. weekly for 10 wk. Wednesdays	100
31 P 01676	Roentgenology and Electrocardiography in Heart Disease in Infants and Children	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Clinical case work Laboratory work	10/10/55	C; 3 days	60
31 P 01677	Angiocardiography and Catheterization of Heart and Great Vessels in Diagnosis of Congenital and Acquired Malformations in the Hearts of Infants and Children [5, 202]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	15	Laboratory work Clinical case work	10/13/55	C; 3 days	60
31 P 01525	Basic Principles and Recent Developments in Pediatrics [327, 53, 5]	Knickerbocker Hotel 163 E. Walton Place, Chicago	R	B	40	Lecture or panel	10/17/55	C; 1 wk.	75
31 P 01675	The Diagnosis and Treatment of Congenital and Rheumatic Heart Disease in Infants and Children [5, 202]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	25	Laboratory work Clinical case work	10/17/55	C; 1 wk.	100
31 P 01709	The Diagnosis and Treatment of Congenital and Rheumatic Heart Disease in Infants and Children	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	24	Laboratory work Clinical case work	3/21/56	I; 2 hr. weekly for 12 wk. Wednesdays	100
31 P 01674	Course 5—Pediatrics [5, 198]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	70	Clinical case work Laboratory work	4/ 2/56	C; 2 wk.	100
31 P 01720	General Pediatrics [58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Clinical case work Small group discussion	3/21/56	I; 2 hr. weekly for 10 wk. Wednesdays	100
31 P 01678	The Neuromuscular Diseases of Children with Special Emphasis on Cerebral Palsy [5, 203]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	80	Laboratory work Clinical case work	6/18/56	C; 2 wk.	225
31 P 01672	Clinical Pediatrics [5, 21]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Clinical case work Small group discussion	Arranged	C; 2 wk.	60
31 P 01673	Clinical Pediatrics [5, 21]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	120	Clinical case work Small group discussion	Arranged	C; 4 wk.	100

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		31. PEDIATRICS—Continued							
31 P 01823	Pediatrics Postgraduate Course [303]	State University of Iowa College of Medicine Iowa City	R	B	10	Clinical case work Small group discussion	9/22/55	C; 1½ days	15
31 P 01872	Pediatrics [40]	University of Kansas Medical Center 39th and Rainbow Blvd. Kansas City 12, Kan.	R	B	21	Clinical case work Lecture or panel	3/12/56	C; 3 days	35
31 P 01914	Pediatric Neurology [153]	Tulane University School of Medicine 1430 Tulane Ave., New Orleans	R	S	40	Lecture or panel Demonstration	2/ 6/56	C; 5 days	50
31 P 02015	Pediatrics 1 [310, 15, 5, 16]	Massachusetts General Hospital Fruit Street, Boston	S	S	Unknown	Laboratory work Clinical case work	10/ 3/55	Specially arranged for 34 wk.	800
31 P 02016	Pediatrics 2 [310, 135]	Children's Hospital 300 Longwood Ave., Boston	S	B	Unknown	Laboratory work Clinical case work	10/ 3/55	Specially arranged for 17 wk.	500
31 P 02017	Pediatrics 2 [310, 135]	Children's Hospital 300 Longwood Ave., Boston	S	B	Unknown	Laboratory work Clinical case work	2/ 6/56	Specially arranged for 17 wk.	500
31 P 02008	Pediatrics 3 [207, 310]	Massachusetts General Hospital Fruit Street, Boston	R	B	46	Clinical case work Lecture or panel	6/11/56	C; 8 days	100
31 P 02009	Pediatric Metabolism and Endocrinology [207, 310]	Massachusetts General Hospital Fruit Street, Boston	R	B	17	Clinical case work Lecture or panel	6/20/56	C; 3 days	50
31 P 02018	Pediatrics 2A [310, 128]	Children's Hospital 300 Longwood Ave., Boston	S	B	Unknown	Laboratory work Clinical case work	Arranged	Specially arranged	200 for 3 mo.
31 P 02102	Pediatrics [154]	Dept. of Postgraduate Medicine, University of Michigan Medical School Ann Arbor, Mich.	R	B	24	Lecture or panel Demonstration	1/56	C; 3 days	30
31 P 02331	Pediatrics for Pediatricians [104, 33, 5]	University of Minnesota, Mayo Memorial Auditorium Minneapolis 14	R	S	12	Lecture or panel	9/21/55	C; 2 days	20
31 P 02318	Pediatrics for General Physicians [33, 5]	University of Minnesota Center for Continuation Study Minneapolis	R	G	16	Lecture or panel	3/ 5/56	C; 3 days	25
31 P 02457	Pediatrics for the General Practitioner [223, 5]	St. Michael's Hospital 306 High St., Newark, N. J.	S	G	24	Small group discussion Lecture or panel	2/29/56	I; 4 hr. weekly for 6 wk. Wednesdays	25
31 P 03307	614-A Review of Clinical Pediatrics [48]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	42	Clinical case work Lecture or panel	9/19/55	C; 6 days	50
31 P 03373	6112-A Recent Advances in Tuberculosis in Children: Clinical Observations [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	36	Clinical case work Lecture or panel	9/22/55	I; 3 hr. weekly for 12 wk. Thursdays	60
31 P 02670	Pediatrics PM 31—Pediatric Cardiology [64]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	48	Laboratory work Clinical case work	10/ 5/55	I; 4 hr. weekly for 12 wk. Wednesdays	150
31 P 03304	611-A Clinical Pediatrics [134]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	120	Clinical case work Lecture or panel	10/31/55	I; 4 hr. 3 times weekly for 10 wk. Mondays, Wednesdays, Fridays	125
31 P 02974	Pediatric Allergy DPE1026	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	S	180	Clinical case work Small group discussion	11/55	Specially arranged	300
31 P 03309	618-A Pediatric Cardiology [134]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	35	Lecture or panel	12/ 5/55	C; 5 days	50
31 P 02474	Pediatric Clinical Seminar	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	R	B	6	Small group discussion Lecture or panel	12/ 8/55	C; 1 day	10
31 P 03374	6112-B Recent Advances in Tuberculosis in Children: Clinical Observations [28]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	36	Clinical case work Lecture or panel	1/12/56	I; 3 hr. weekly for 12 wk.	60
31 P 03305	613-A Pediatric Refresher Course [134]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	70	Clinical case work Lecture or panel	1/16/56	C; 2 wk.	100
31 P 03370	6111-A Symposium on Tuberculosis and Other Pulmonary Diseases in Childhood [118]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	35	Lecture or panel Demonstration	1/16/56	C; 5 days	60

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31 P 03368	614-B Review of Clinical Pediatrics [48]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	42	Clinical case work Lecture or panel	3/ 5/56	C; 6 days	50
31 P 03371	6111-B Symposium on Tuberculosis and Other Pulmonary Diseases in Childhood [118]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	35	Lecture or panel Demonstration	3/12/56	C; 5 days	60
31 P 04499	Clinical Pediatrics [58]	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	R	B	18	Small group discussion Demonstration	3/22/56	I; 3 hr. weekly for 6 wk. Thursdays	25
31 P 03366	613-B Pediatric Refresher Course [134]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	70	Clinical case work Lecture or panel	4/16/56	C; 2 wk.	100
31 P 03372	6111-C Symposium on Tuberculosis and Other Pulmonary Diseases in Childhood [118]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	35	Lecture or panel Demonstration	6/ 4/56	C; 5 days	60
31 P 02899	Bureau of Child Health Pre-Service Training Course [233]	Kips Bay Health Center 411 E. 69th St., New York	S	B	75	Lecture or panel Field observation and participation	Arranged	C; 5 wk.	Nil
31 P 03146	Pediatrics	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	120	Laboratory work Clinical case work	Arranged	Specially arranged	100
31 P 02970	Clinical Pediatrics DPE1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Clinical case work Small group discussion	Anytime	C; 4 wk.	150
31 P 02971	Clinical Pediatrics DPE1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Clinical case work Small group discussion	Anytime	C; 12 wk.	250
31 P 02972	Clinical Pediatrics DPE1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Clinical case work Small group discussion	Anytime	C; 24 wk.	450
31 P 02973	Clinical Pediatrics DPE1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Clinical case work Small group discussion	Anytime	C; 36 wk.	650
31 P 02975	Clinical Pediatrics DPE1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Clinical case work Small group discussion	Anytime	C; 52 wk.	850
31 P 03375	6113-A Comprehensive Course in Tuberculosis and Allied Diseases in Children	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	140	Clinical case work Lecture or panel	Arranged	C; 12 wk.	125
31 P 03559	Postgraduate Course in Obstetrics-Pediatrics [227, 207]	The Bowman Gray School of Medicine of Wake Forest College Winston-Salem, N. C.	S	G	15	Clinical case work	4/15/56	C; 3 days	Nil
31 P 03582	Pediatrics and Internal Medicine [231]	Southern Pediatric Seminar Saluda, N. C.	R	G	80	Clinical case work Lecture or panel	7/11/56	C; 2 wk.	25
31 P 03651	Current Therapy in Pediatric Practice [53]	Frank E. Bunts Educational Institute 2020 E. 93rd St., Cleveland	R	B	10	Lecture or panel	9/28/55	C; 2 days	15
31 P 03801	Symposium on Pediatric Problems [264]	Four selected centers in Western Oregon	R	B	5	Lecture or panel Discussion	11/55	C; 1 day	Nil
31 P 03859	Pediatrics for the General Practitioner [5, 148]	Hahnemann Medical College and Hospital 235 N. 15th St., Philadelphia	R	G	24	Lecture or panel Demonstration	3/16/56	I; 2 hr. weekly for 12 wk. Wednesdays	50
31 P 03892	Postgraduate Seminar for Pediatricians [119]	St. Christopher's Hospital for Children 2600 N. Lawrence, Philadelphia	R	S	25	Small group discussion Lecture or panel Demonstration	5/56 or 6/56	C; 3½ days	50
31 P 03922	Rh and Other Blood Group Incompatibilities in Relation to Erythroblastosis Fetalis [101, 190]	The Childrens Hospital 1740 Bainbridge St., Philadelphia	R	B	24	Small group discussion Lecture or panel	6/56	C; 3 days	60
31 P 04041	Pediatrics (Circuit-Type) [222, 5, 254]	County seats or major cities in state of Tennessee	R	B	375	Clinical case work Small group discussion	9/ 2/55	Specially arranged	20
31 P 04102	Pediatrics [51, 5]	University of Tennessee Medical College 874 Union Ave., Memphis, Tenn.	R	G	23	Clinical case work Small group discussion	3/11/56	C; 3 days	50
31 P 04174	Common Problems in Obstetrics and Pediatrics [200, 207]	The University of Texas Postgraduate School of Medicine 2909 19th St., Lubbock, Texas	R	G	10	Lecture or panel	10/12/55	I; 2½ hr. weekly for 4 wk. Wednesdays	15
31 P 04132	Pediatrics [207, 5]	The University of Texas, Southwestern Medical School 5323 Harry Hines Blvd., Dallas, Texas	R	G	21	Lecture or panel	11/ 7/55	C; 3 days	30

References will be found on pages 1129-1131.

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		31. PEDIATRICS—Continued							
31 P 04164	Pediatrics	The University of Texas Postgraduate School of Medicine, Texas Medical Center Houston, Texas	R	B	24	Lecture or panel	11/55	C; 3 days	Unknown
31 P 04181	Pediatrics [13, 206]	The University of Texas Postgraduate School of Medicine, Temple Division, Scott and White (Clinic) Hospitals Temple, Texas	R	G	176	Laboratory work Small group discussion	12/55	Specially arranged	25
31 P 04419	Refresher Course for General Practitioners [52]	Vancouver General Hospital Vancouver, British Columbia, Canada	R	G	18	Lecture or panel Theatre clinics	12/ 7/55	C; 3 days	15
		32. PERIPHERAL VASCULAR DISEASE							
32 P 01098	Varicose Veins and Surgical Diseases of the Peripheral Vascular System [94]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	12	Lecture or panel Demonstration	1/17/56	I; 2 hr. weekly for 6 wk. Tuesdays	30
32 P 01504	Peripheral Vascular and Peripheral Nerve Disease [320]	Hotel Statler Detroit	R	B	8	Lecture or panel Demonstration	8/29/55	C; 2 days	15
32 P 02843	Med PM 65—Peripheral Vascular Diseases [93]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	78	Clinical case work Small group discussion	9/22/55	I; 3 hr. weekly for 26 wk. Thursdays	125
32 P 02844	Med PM 65A—Advanced Course in Peripheral Vascular Surgery [93]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	48	Lecture or panel	10/ 5/55	I; 3 hr. weekly for 16 wk. Wednesdays	150
32 P 03308	5418-A Peripheral Vascular Diseases [134]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	35	Clinical case work Lecture or panel	11/28/55	C; 5 days	50
32 P 02475	Cardiovascular Teaching Day	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	R	B	6	Lecture or panel	2/ 2/56	C; 1 day	10
32 P 03304	5413-A Peripheral Vascular Diseases [134]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	16	Lecture or panel Demonstration	4/10/56	I; 2 hr. weekly for 8 wk. Tuesdays	40
32 P 02792	Peripheral Vascular Diseases [7, 8]	Jewish Hospital Brooklyn, N. Y.	R	G	10	Clinical case work Lecture or panel	4/56	I; 1 hr. twice weekly for 5 wk. Mondays, Fridays	20
32 P 03035	The Development of Arterial Grafting for Vascular Disease [262]	Academy of Medicine of Cleveland and Cuyahoga County 2009 Adelbert Rd., Cleveland 6	S	B	3	Lecture or panel	11/18/55	C; 1 day	Nil
		33. PHARMACOLOGY							
33 P 02907	Applied Pharmacology DPH1076 [95]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	36	Lecture or panel	Unknown	Specially arranged	300
		34. PUBLIC HEALTH							
34 P 02898	Pre-Service Training Course in School Health [284]	Department of Health 125 Worth St., New York 13	S	B	99	Lecture or panel Demonstration	4/13/56	C; 33 days	Nil
34 P 03233	Extension Course in Public Health [272, 273, 5]	New York State Department of Health State Office Building, Albany, N. Y.	S	G	30	Small group discussion Lecture or panel	Inquire	I; 5 hr monthly for 6 mo. Thursdays	25
		35. PHYSICAL MEDICINE AND REHABILITATION							
35 P 01091	Physical Medicine [64]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	G	8	Small group discussion	10/ 5/55	I; 1 hr. weekly for 8 wk. Wednesdays	30
35 P 01430	Physical Therapy and Occupational Therapy in the Care of Poliomyelitis [43]	Georgia Warm Springs Foundation Warm Springs, Ga.	R	B	40	Lecture or panel Demonstration	10/ 3/55	C; 5 days	Nil
35 P 01432	Physical Therapy and Occupational Therapy in the Care of Poliomyelitis [5, 10, 142]	Georgia Warm Springs Foundation Warm Springs, Ga.	S	B	515	Clinical case work Lecture or panel	10/ 3/55	C; 6 mo.	Nil
35 P 01431	Physical Therapy and Occupational Therapy in the Care of Poliomyelitis [43]	Georgia Warm Springs Foundation Warm Springs, Ga.	R	B	40	Lecture or panel Demonstration	1/ 2/56	C; 5 days	Nil

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35 P 01433	Physical Therapy and Occupational Therapy in the Care of Poliomyelitis [142, 5, 16]	Georgia Warm Springs Foundation Warm Springs, Ga.	S	B	515	Clinical case work Lecture or panel	1/ 2/56	C; 6 mo.	Nil
35 P 01434	Physical Therapy and Occupational Therapy in the Care of Poliomyelitis [142, 5, 16]	Georgia Warm Springs Foundation Warm Springs, Ga.	S	B	515	Clinical case work Lecture or panel	4/ 2/56	C; 6 mo.	Nil
35 P 02096	Physical Therapy and Occupational Therapy in the Care of Poliomyelitis [213, 43]	Georgia Warm Springs Foundation Warm Springs, Ga.	R	B	40	Lecture or panel Demonstration	4/ 2/56	C; 5 days	Nil
35 P 02883	Psychiatric and Vocational Topics of Rehabilitation [320]	Hotel Statler Detroit	R	B	8	Lecture or panel Demonstration	8/30/55	C; 2 days	15
35 P 03509	Physical Medicine and Rehabilitation [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	S	G	140	Clinical case work Small group discussion	9/28/55	I; 7 hr. weekly for 20 wk. Wednesdays	300
35 P 03377	7312-A Seminar on the Rehabilitation of Children	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	35	Clinical case work	10/17/55	C; 5 days	40
35 P 03376	7311-A Physical Medicine and Rehabilitation [155]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	70	Lecture or panel Demonstration	Unknown	C; 10 days	75
35 P 03148	Physical Medicine and Rehabilitation	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	G	120	Clinical case work Small group discussion	Arranged	Specially arranged	100
		36. PHYSIOLOGY							
36 P 01092	Surgical Physiology [10, 16]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	64	Lecture or panel	10/ 6/55	I; 2 hr. weekly for 32 wk. Thursdays	75
36 P 01150	Basic Science—Applied Physiology [156]	San Diego County General Hospital and Mercy Hospital San Diego, Calif.	R	B	24	Lecture or panel	11/55	I; 2 hr. weekly for 12 wk. Thursdays	Nil
36 P 01136	Applied Physiology [265]	Mercy Hospital Hillcrest Drive, San Diego, Calif.	S	B	24	Lecture or panel	11/55	I; 2 hr. weekly for 14 wk. Thursdays	Nil
36 P 04603	Clinical Physiology—A Basic Course [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Clinical case work Small group discussion	9/21/55	I; 2 hr. weekly for 10 wk. Wednesdays	100
36 P 04604	Clinical Physiology—A Basic Course [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	20	Clinical case work Small group discussion	3/21/56	I; 2 hr. weekly for 10 wk. Wednesdays	100
36 P 02216	Physiology and Pharmacology Seminar	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	11	Small group discussion	Unknown	I; 1 hr. weekly for 11 wk.	15
36 P 02217	Survey of Physiology	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	11	Small group discussion	Unknown	I; 1 hr. weekly for 11 wk.	15
36 P 02979	Intensive Review of Physiology DPHY1026 [33]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	25	Small group discussion Lecture or panel	9/55 or 11/55	Specially arranged	50
36 P 02976	Survey of Physiology DPHY1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	Unknown	Lecture or panel	10/55	Specially arranged	50
36 P 02980	Physiology of the Cardiovascular System [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	15	Small group discussion Lecture or panel	Anytime	Specially arranged	150
36 P 02981	Physiology of Respiration [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	12	Small group discussion Lecture or panel	Anytime	Specially arranged	100
36 P 02982	Physiology of the Nervous System DPHY1056 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	12	Small group discussion Lecture or panel	Anytime	Specially arranged	120
36 P 02983	Physiology of the Sense Organs DPHY1066 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	8	Small group discussion Lecture or panel	Anytime	Specially arranged	80
36 P 02984	Physiology of the Immune Response DPHY1076 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	8	Small group discussion Lecture or panel	Anytime	Specially arranged	80
36 P 02985	Physiology of the Kidney and Water Balance DPHY1086 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	8	Small group discussion Lecture or panel	Anytime	Specially arranged	80
36 P 02986	Physiology of the Body Fluids and Electrolytes DPHY1096 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	16	Small group discussion Lecture or panel	Anytime	Specially arranged	160

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		36. PHYSIOLOGY—Continued							
36 P 02991	Physiology of the Endocrine System DPHY1106 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	8	Small group discussion Lecture or panel	Anytime	Specially arranged	80
36 P 02671	Physiology PM 32—Normal and Pathological Physiology	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	52	Lecture or panel	10/19/55	I; 2 hr. weekly for 26 wk. Wednesdays	150
36 P 04293	Clinical Pulmonary Physiology [149]	University of Washington School of Medicine Health Sciences Building, Seattle	R	B	Unknown	Laboratory work Clinical case work	Spring, 1956	C; 2 days	20
		37. PLASTIC SURGERY							
37 P 02483	Otolaryngologic Plastic Surgery [157]	Manhattan General Hospital 307 Second Ave., New York	S	S	56	Laboratory work Clinical case work	Fall, 1955	C; 7 days	125
		38. PROCTOLOGY							
38 P 01121	Proctology [5, 18]	Los Angeles Graduate School of Medicine 1858 W. Washington Blvd., Los Angeles	R	B	14	Small group discussion Lecture or panel	10/20/55	I; 2 hr. weekly for 7 wk. Thursdays	Unknown
38 P 01698	Proctoscopy and Sigmoidoscopy [5, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	9	Clinical case work Operative surgery	9/13/55	I; 3 hr. weekly for 3 wk. Tuesdays	50
38 P 01699	Proctoscopy and Sigmoidoscopy [5, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	9	Clinical case work Operative surgery	10/11/55	I; 3 hr. weekly for 3 wk. Tuesdays	50
38 P 01694	Proctology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	10	Laboratory work Clinical case work	10/26/55	I; 2 hr. weekly for 5 wk. Wednesdays	100
38 P 01700	Proctoscopy and Sigmoidoscopy [5, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	9	Clinical case work Operative surgery	11/15/55	I; 3 hr. weekly for 3 wk. Tuesdays	50
38 P 01695	Proctology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	10	Laboratory work Clinical case work	1/25/56	I; 2 hr. weekly for 5 wk. Wednesdays	100
38 P 01702	Proctoscopy and Sigmoidoscopy [5, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	9	Clinical case work Operative surgery	2/ 7/56	I; 3 hr. weekly for 3 wk. Tuesdays	50
38 P 01701	Prostoscopy and Sigmoidoscopy [5, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	9	Clinical case work Operative surgery	1/ 3/56	I; 3 hr. weekly for 3 wk. Tuesdays	50
38 P 01696	Proctology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	10	Laboratory work Clinical case work	3/ 7/56	I; 2 hr. weekly for 5 wk. Wednesdays	100
38 P 01703	Proctoscopy and Sigmoidoscopy [5, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	9	Clinical case work Operative surgery	3/13/56	I; 3 hr. weekly for 3 wk. Tuesdays	50
38 P 01704	Proctoscopy and Sigmoidoscopy [5, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	9	Clinical case work Operative surgery	4/17/56	I; 3 hr. weekly for 3 wk. Tuesdays	50
38 P 01705	Proctoscopy and Sigmoidoscopy [5, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	9	Clinical case work Operative surgery	5/15/56	I; 3 hr. weekly for 3 wk. Tuesdays	50
38 P 01697	Proctology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	10	Laboratory work Clinical case work	5/23/56	I; 2 hr. weekly for 5 wk. Wednesdays	100
38 P 01706	Proctoscopy and Sigmoidoscopy [5, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	9	Clinical case work Operative surgery	6/ 5/56	I; 3 hr. weekly for 3 wk. Tuesdays	50
38 P 02324	Proctology for General Physicians [193, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	35	Lecture or panel	5/14/56	C; 1 wk.	40
38 P 03166	Proctology, Gastroenterology, Operative Proctology (Cadaver)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	150	Laboratory work Clinical case work	10/ 3/55	C; 6 wk.	200

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38 P 03168	Clinical Proctology and Gastroenterology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	100	Laboratory work Clinical case work	10/ 3/55	C; 6 wk.	100
38 P 02784	Proctology [7, 32]	Jewish Hospital Brooklyn, N. Y.	R	G	24	Clinical case work Lecture or panel	10/55	I; 2 hr. twice weekly for 6 wk. Mondays, Fridays	40
38 P 03167	Proctology, Gastroenterology, Operative Proctology (Cadaver)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	150	Laboratory work Clinical case work	4/ 2/56	C; 6 wk.	200
38 P 03169	Clinical Proctology and Gastroenterology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	100	Laboratory work Clinical case work	4/ 2/56	C; 6 wk.	100
38 P 02799	Proctology [7, 32]	Jewish Hospital Brooklyn, N. Y.	R	G	24	Clinical case work Lecture or panel	4/56	I; 2 hr. twice weekly for 6 wk. Mondays, Fridays	40
38 P 03170	Clinical Proctology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	80	Laboratory work Clinical case work	Arranged	Specially arranged	75
38 P 03172	Proctology (Clinical and Cadaver)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	120	Laboratory work Clinical case work	Arranged	Specially arranged for 6 wk.	175
38 P 04177	Proctology [197, 206]	The University of Texas Postgraduate School of Medicine, Temple Division, Scott and White (Clinic) Hospitals Temple, Texas	R	G	88	Small group discussion Demonstration	Arranged	Specially arranged for 2 wk.	25
		39. PSYCHIATRY							
39 P 01273	Basic Psychiatry [116]	Connecticut State Hospital Silver Street, Middletown, Conn.	S	S	54	Lecture or panel	1/ 9/56	I; 6 hr. weekly for 9 wk. Mondays	Nil
39 P 01858	Recent Developments in Psychiatry for the Internist [53, 241]	Menninger Psychiatric Clinic and Hospital 3617 W. Sixth St., Topeka, Kan.	S	B	32½	Small group discussion Lecture or panel	10/24/55	C; 5 days	30 to members
39 P 02329	Psychiatric Principles in General Practice [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	Unknown	Small group discussion	9/ 6/55	C; 4 days	130
39 P 02693	Psychiatry PM 1—Symposium on Neurology and Psychiatry	Columbia-Presbyterian Medical Center 630 W. 168th St., New York 32	S	S	350	Laboratory work Lecture or panel	10/ 3/55	C; 10 wk.	300
39 P 03459	Development of Psychoanalytic Thinking	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	S	B	22½	Lecture or panel	10/10/55	I; 1½ hr. weekly for 15 wk. Mondays	40
39 P 03461	Psychiatric Films	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	S	B	36	Lecture or panel Movie showings	10/17/55	I; 2 hr. every 2 wk. for 36 wk. Mondays	Nil
39 P 02780	Child Psychiatry [7, 8]	Kings County Hospital Brooklyn, N. Y.	R	G	10	Clinical case work Small group discussion	10/55	I; 1 hr. weekly for 10 wk. Mondays	20
39 P 03462	Cultural Aspects of Psychotherapy [278]	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	S	B	22½	Small group discussion	2/13/56	I; 1½ hr. weekly for 15 wk. Mondays	30
39 P 03515	Psychiatric Problems in General Practice [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	7	Clinical case work Small group discussion	2/23/56	C; 1 day	15
39 P 02796	Child Psychiatry [7, 8]	Kings County Hospital Brooklyn, N. Y.	R	G	10	Clinical case work Lecture or panel	4/56	I; 1 hr. weekly for 10 wk. Mondays	20
39 P 02987	Introduction to Child Psychiatry DPS1036	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Lecture or panel	Anytime	Specially arranged	30
39 P 02988	Readings in Psychoanalytic Literature DPS1046	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Small group discussion Lecture or panel	Anytime	Specially arranged	40
39 P 02989	Psychoanalysis and Psychiatry DPS1056	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Small group discussion Lecture or panel	Anytime	Specially arranged	40
39 P 03910	Clinicobiologic Neurology and Psychiatry [10]	Graduate School of Medicine, University of Pennsylvania Philadelphia	R	B	440	Laboratory work Clinical case work	9/26/55	C; 11 wk.	300
39 P 04295	Practical Psychiatry [209]	University of Washington School of Medicine Health Sciences Building, Seattle	R	B	38	Clinical case work Small group discussion	7/56	C; 5 days	50

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		40. PSYCHOANALYSIS							
40 P 02504	Readings in Psychoanalysis, Part 2—The Works of Freud [16, 31]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	S	B	30	Lecture or panel	9/12/55	I; 1½ hr. weekly for 20 wk. Thursdays	60
40 P 02499	Readings in Psychoanalysis, Part 1—The Works of Karen Horney [16, 31]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	S	B	37½	Lecture or panel	9/13/55	I; 1½ hr. weekly for 25 wk. Tuesdays	75
40 P 02502	Clinical Conferences on Case Histories I [64]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	S	B	15	Clinical case work	9/23/55	I; 1½ hr. weekly for 10 wk. Fridays	30
40 P 02507	Group Psychodynamics and Group Psychoanalysis [153, 309, 16]	New School for Social Research 66 W. 12th St., New York	S	B	22½	Lecture or panel	9/25/55	I; 1½ hr. weekly for 15 wk. Tuesdays	24
40 P 02506	Workshop on Dynamics of Behavior [309, 153, 16]	New School for Social Research 66 W. 12th St., New York	S	B	22½	Clinical case work Lecture or panel	10/ 3/55	I; 1½ hr. weekly for 15 wk. Mondays	35
40 P 03525	Social Psychology [158, 101]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	B	15	Lecture or panel	10/ 3/55	I; 1½ hr. weekly for 10 wk. Mondays	40
40 P 03533	Modern Conceptions of Psychoanalysis B-1 [158, 101]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	B	9	Lecture or panel	10/ 3/55	I; 1½ hr. every 2 wk. for 2 mo. Mondays	20
40 P 03526	Basic Psychoanalytic Principles and Seminar [158, 159]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	B	22	Small group discussion Lecture or panel	10/ 4/55	I; 2 hr. weekly for 2½ mo. Tuesdays	45
40 P 03540	Seminar on Child Therapy CS-15 [158, 160]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	S	20	Clinical case work Small group discussion	10/ 5/55	I; 2 hr. weekly for 10 wk. Wednesdays	40
40 P 03532	The Significance of Physical Symptoms in Personality Disorders A-11 [158, 160]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	G	12	Lecture or panel	10/ 6/55	I; 1½ hr. weekly for 8 wk. Thursdays	25
40 P 02990	Comprehensive Course in Psychoanalysis DPS1066	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	S	3 yr.	Clinical case work Lecture or panel	10/55	C; 3 yr.	500
40 P 03528	Evolution of Psychoanalytic Concepts and Seminar A-3 and AS-3 [158, 101]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	B	22	Small group discussion Lecture or panel	1/11/56	I; 2 hr. every 2 wk. for 5 mo. Wednesdays	45
40 P 03541	Interpersonal Factors in Clinical Psychotherapy with Adolescents CS-34 [158, 160]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	S	15	Clinical case work Small group discussion	1/17/56	I; 1½ hr. weekly for 10 wk. Tuesdays	35
40 P 03534	Case Seminar on the Team Work Approach in Therapy CS-10 [158, 160]	The William Alanson White Institute of Psychiatry, Psychoanaiysis and Psychology 12 E. 86th St., New York 28	S	S	16	Clinical case work Small group discussion	1/23/56	I; 2 hr. every 2 wk. for 3 mo. Mondays	35
40 P 03542	Seminar on Psychotherapeutic Management of Hospitalized Patients CS-16 [158, 9]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	S	17½	Clinical case work Small group discussion	1/30/56	I; 1¾ hr. every 2 wk. for 5 mo. Mondays	50
40 P 03531	Literature of Psychoanalysis, Part 1 A-10 [158, 162]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	B	16½	Lecture or panel	1/31/56	I; 1½ hr. every 2 wk. for 5 mo. Tuesdays	35
40 P 03537	Practical Seminar for Physicians CS-11 [158, 160]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	G	15	Clinical case work Small group discussion	2/ 1/56	I; 1½ hr. every 2 wk. for 4 mo. Wednesdays	30
40 P 03529	Anthropology and the Comparative Study of Civilization A-4 [158, 34]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	B	15	Lecture or panel	2/ 3/56	I; 1½ hr. every 2 wk. for 4 mo. Fridays	30

40 P 02505	The Practice of Group Psychoanalysis [16, 19]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	S	B	15	Clinical case work Lecture or panel	2/ 3/56	I; 1½ hr. weekly for 10 wk. Fridays	30
40 P 02508	Love, Sex, and Marriage (A Workshop) [248, 309, 16]	New School for Social Research 66 W. 12th St., New York	S	B	22½	Clinical case work Lecture or panel	2/ 6/56	I; 1½ hr. weekly for 15 wk.	35
40 P 02509	Neuroses and Psychoses [248, 309, 16]	New School for Social Research 66 W. 12th St., New York	S	B	22½	Lecture or panel	2/ 7/56	I; 1½ hr. weekly for 15 wk. Tuesdays	24
40 P 03538	Seminar on Current Issues in Psychoanalysis CS-14 [158, 160]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	S	12	Small group discussion	2/10/56	I; 1½ hr. every 2 wk. for 3 mo. Fridays	25
40 P 03530	Psychological Development of the Normal Child A-8 [158, 101]	The William Alanson White Institute of Psychiatry, Psychoanalysis and Psychology 12 E. 86th St., New York 28	S	B	6	Small group discussion Lecture or panel	4/23/56	I; 3 hr. twice weekly for 1 wk. Monday, Thursday	30
40 P 02977	Introduction to Psychoanalysis DPS1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Small group discussion Lecture or panel	Anytime	Specially arranged	30
		41. PSYCHOSOMATIC MEDICINE							
41 P 03460	Seminar on Psychosomatic Medicine	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	S	B	22½	Lecture or panel	10/13/55	I; 1½ hr. weekly for 15 wk. Thursdays	30
41 P 02503	The Neurotic Patient in Medical Practice [101]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	S	B	15	Clinical case work Lecture or panel	2/ 2/56	I; 1½ hr. weekly for 10 wk. Thursdays	30
41 P 02978	Seminar on Psychosomatic Medicine DPS1026	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Small group discussion Lecture or panel	Anytime	Specially arranged	40
		42. PULMONARY DISEASE							
42 P 01469	Postgraduate Course in Diseases of the Chest [230]	Hotel (not named as yet) Los Angeles	S	B	40	Lecture or panel	12/ 5/55	C; 5 days	75
42 P 01253	Eighth Annual Symposium on Pulmonary Diseases [38]	Fitzsimons Army Hospital Denver 8	R	B	40	Lecture or panel Demonstration	9/26/55	C; 5 days	Unknown
42 P 04556	Symposium on Pulmonary Diseases [5, 163]	Fitzsimons Army Hospital Denver 8	R	B	40	Clinical case work Lecture or panel	9/26/55	C; 5 days	Nil
42 P 01467	10th Annual Postgraduate Course in Diseases of the Chest [230, 58]	Hotel Knickerbocker East Walton Street, Chicago	S	B	40	Lecture or panel	10/ 3/55	C; 5 days	75
42 P 01809	Lung Diseases and Pulmonary Function [81, 5]	Indiana University School of Medicine 1100 W. Michigan St., Indianapolis	R	B	8	Laboratory work Clinical case work	5/23/56	C; 1 day	10
42 P 01867	Chest Diseases [164]	University of Kansas Medical Center 39th and Rainbow Blvd., Kansas City 12, Kan.	S	B	14	Clinical case work Small group discussion	1/23/56	C; 2 days	30
42 P 02941	The Measurement of Pulmonary Function in Health and Disease [299, 328]	Dowling Amphitheatre, Boston City Hospital Boston	S	B	38	Demonstration	3/26/56	C; 5 days	50
42 P 03514	Diseases of the Chest [5]	University of Buffalo School of Medicine 3435 Main St., Buffalo	R	G	7	Clinical case work Small group discussion	11/17/55	C; 1 day	15
42 P 01468	Eighth Annual Postgraduate Course in Diseases of the Chest [230, 231]	Hotel (not definitely assigned) New York	S	B	40	Lecture or panel	11/55	C; 5 days	75
42 P 03299	548-A Acute and Chronic Diseases of the Chest [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	14	Lecture or panel Demonstration	4/ 9/56	I; 2 hr. weekly for 7 wk. Mondays	35
42 P 03495	Symposium on Tuberculosis and Other Chronic Pulmonary Disease [207, 5, 274]	Laboratories in Saranac Lake, N. Y. P. O. Box 2, Saranac Lake, N. Y.	R	G	26	Laboratory work Clinical case work	7/ 9/56	C; 5 days	40
42 P 03644	Postgraduate Course in Pulmonary Diseases [125]	Ohio Tuberculosis Hospital Ohio State University Campus Columbus, Ohio	R	G	10	Lecture or panel Demonstration	10/ 7/55	C; 2 days	15
42 P 03720	Postgraduate Course in Pulmonary Diseases	College of Medicine, Ohio State University Columbus, Ohio	R	G	11	Lecture or panel	10/ 7/55	C; 1½ days	15
42 P 03721	Postgraduate Course in Pulmonary Diseases	College of Medicine, Ohio State University Columbus, Ohio	R	G	11	Lecture or panel	10/ 7/55	C; 1½ days	15

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		42. PULMONARY DISEASE—Continued							
42 P 03637	Lung Disease [262]	Academy of Medicine of Cleveland and Cuyahoga County 2909 Adelbert Rd., Cleveland 6	S	B	3	Lecture or panel	3/16/56	C; 1 day	Nil
42 P 01217	Diseases of the Chest (Including Pulmonary and Cardio-Respiratory Diseases) [297]	Roosevelt Hotel Pittsburgh	R	B	16	Lecture or panel	10/ 2/55	I; 4 hr. weekly for 4 wk. Sundays	Unknown
42 P 01470	Ninth Annual Postgraduate Course in Diseases of the Chest [230, 53]	Hotel Bellevue Stratford Philadelphia	S	B	40	Lecture or panel	3/56	C; 5 days	75
42 P 04134	Chest Diseases [292, 5]	The University of Texas, Southwestern Medical School 5323 Harry Hines Blvd., Dallas, Texas	R	G	14	Lecture or panel	5/56	C; 2 days	5
42 P 04183	Diseases of the Chest [13, 206]	The University of Texas Postgraduate School of Medicine, Temple Division, Scott and White (Clinic) Hospitals Temple, Texas	R	G	88	Laboratory work Small group discussion	Arranged	Specially arranged	25
		43. RADIOLOGY							
43 P 01089	Roentgen Diagnosis and Roentgen Therapy [64]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	G	31	Small group discussion Demonstration	10/ 4/55	I; 1 hr. weekly for 31 wk. Tuesdays	100
43 P 01223	882: (A) The Essential Physics of Therapeutic Radiology and (B) Clinical Applications of Radioactive Isotopes	University of Southern California School of Medicine 2025 Zonal Ave., Los Angeles 33	S	S	24	Lecture or panel	Spring, 1956	I; 2 hr. weekly for 12 wk. Mondays	75
43 P 01286	Radiology 302—Introduction to X-Rays and Radioisotopes	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	12	Lecture	9/29/55	I; 1 hr. weekly for 12 wk.	25
43 P 01803	Radiology 304—Radioactivity	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	30	Laboratory work Lecture or panel	3/15/56	I; 3 hr. weekly for 10 wk. Thursdays	100
43 P 01302	Radiology 303—X-Ray Physics	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	20	Laboratory work Lecture or panel	5/ 1/56	I; 2 hr. weekly for 10 wk.	25
43 P 03838	American Roentgen Ray Society—Instructional Courses [165, 166]	Palmer House State Street, Chicago	R	S	6	Small group discussion Lecture or panel	9/20/55	C; 4 days	1.50
43 P 04601	Diagnostic Roentgenology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	40	Laboratory work Clinical case work	9/21/55	I; 4 hr. weekly for 10 wk. Wednesdays	100
43 P 01658	Course I—Diagnostic Radiology [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	68	Laboratory work Clinical case work	10/ 3/55	C; 2 wk.	125
43 P 01668	The Clinical Uses of Radioisotopes [5, 130]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Laboratory work Clinical case work	10/10/55	C; 2 wk.	200
43 P 03489	Instructional Courses [235, 236]	Palmer House Chicago	R	S	76½	Lecture or panel	12/11/55	Specially arranged	15
43 P 01659	Course I—Diagnostic Radiology [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	68	Laboratory work Clinical case work	1/ 9/56	C; 2 wk.	125
43 P 01660	Course I—Diagnostic Radiology [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	68	Laboratory work Clinical case work	2/27/56	C; 2 wk.	125
43 P 04602	Diagnostic Roentgenology [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	40	Laboratory work Clinical case work	3/21/56	I; 4 hr. weekly for 10 wk. Wednesdays	100
43 P 01671	The Clinical Use of Radioactive Iodine [5, 130]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Laboratory work Clinical case work	4/ 2/56	C; 1 wk.	100
43 P 01661	Course I—Diagnostic Radiology [5, 117]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	68	Laboratory work Clinical case work	5/ 7/56	C; 2 wk.	125
43 P 01669	The Clinical Uses of Radioisotopes [5, 130]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Laboratory work Clinical case work	5/ 7/56	C; 2 wk.	200

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43 P 01670	Radium Therapy [5, 130]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Laboratory work Clinical case work	5/21/56	C; 1 wk.	100
43 P 01662	Course 2—Clinical Radiology [5, 21]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	50	Laboratory work Clinical case work	Arranged	C; 2 wk.	70
43 P 01663	Course 2—Clinical Radiology [5, 21]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	100	Laboratory work Clinical case work	Arranged	C; 4 wk.	125
43 P 01664	Course 3—X-Ray Therapy [5, 21]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Laboratory work Clinical case work	Arranged	C; 1 wk.	60
43 P 01665	Course 3—X-Ray Therapy [5, 21]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Laboratory work Clinical case work	Arranged	C; 2 wk.	110
43 P 01666	Course 3—X-Ray Therapy [5, 21]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	120	Laboratory work Clinical case work	Arranged	C; 4 wk.	200
43 P 01667	Course 3—X-Ray Therapy [5, 21]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	240	Laboratory work Clinical case work	Arranged	C; 8 wk.	300
43 P 01911	Radiologic Considerations of Pulmonary, Urological and Bone Disease [101]	Tulane University School of Medicine 1430 Tulane Ave., New Orleans	R	B	16	Lecture or panel Demonstration	11/17/55	C; 2 days	25
43 P 01869	Radiology and Radioactive Isotopes [167]	University of Kansas Medical Center 39th and Rainbow Blvd., Kansas City 12, Kan.	S	B	24	Clinical case work Lecture or panel Demonstration	2/13/56	C; 4 days	45
43 P 02032	Pediatric Radiology [187, 210]	Children's Hospital 300 Longwood Ave., Boston	S	S	125	Laboratory work Clinical case work	Arranged	Specially arranged for 4 wk.	150
43 P 02033	General Radiology 1 [187, 210]	Peter Bent Brigham Hospital 721 Huntington Ave., Boston	S	S	125	Laboratory work Clinical case work	Arranged	Specially arranged for 4 wk.	150
43 P 02035	General Radiology 2 [15, 210]	Massachusetts General Hospital Fruit Street, Boston	S	S	125	Laboratory work Clinical case work	Arranged	Specially arranged for 4 wk.	150
43 P 02036	General Radiology 3 [187, 210]	Boston City Hospital 818 Harrison Ave., Boston	S	S	125	Laboratory work Clinical case work	Arranged	Specially arranged for 4 wk.	150
43 P 02169	Diagnostic Radiology [41]	Dept. of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	B	20	Lecture or panel	4/56	C; 5 days	50
43 P 02307	Radiology for Specialties [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	S	32	Lecture or panel	11/ 7/55	C; 1 wk.	40
43 P 02320	Radiology for General Physicians [33, 5]	University of Minnesota Center for Continuation Study Minneapolis	R	G	16	Lecture or panel	4/ 9/56	C; 3 days	25
43 P 03382	651-A Diagnostic Radiology for General Practitioners [58]	New York University Post-Graduate Medical School 550 First Ave., New York	S	G	64	Lecture or panel	9/28/55	I; 2 hr. weekly for 32 wk. Wednesdays	100
43 P 03157	Roentgen Interpretation	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	480	Laboratory work Clinical case work	10/ 3/55	C; 12 wk.	300
43 P 03150	Advanced Diagnostic Roentgenology and Radiotherapy	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	480	Laboratory work Clinical case work	10/ 3/55	C; 12 wk.	300
43 P 02677	Radiology PM 80—Roentgenographic Interpretation of the Diseases of Bones and Joints	Hospital for Joint Disease 1919 Madison Ave., New York	R	G	26	Lecture or panel Demonstration	10/ 5/55	I; 2 hr. weekly for 13 wk. Wednesdays	150
43 P 03384	656-A Isotopes and Their Medical Application [95]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	72	Laboratory work Clinical case work	10/ 5/55	I; 2 hr. weekly for 36 wk. Wednesdays	250
43 P 02699	Radiology PM 41—Clinical Use of Radioactive Isotopes [150]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	100	Laboratory work Lecture or panel	10/ 6/55	I; 3 hr. weekly for 8 mo. Thursdays	200
43 P 02695	Radiology PM 30—Introduction to Nuclear Radiation Physics [8]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	45	Laboratory work Lecture or panel	10/12/55	I; 1½ hr. twice weekly for 15 wk. Wednesdays, Thursdays	100
43 P 02672	Radiology PM 31—Radiology of the Chest [108]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	10½	Clinical case work Lecture or panel	10/17/55	C; 7 days	50

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		43. RADIOLOGY Continued							
43 P 02675	Radiology PM 34—Differential Diagnosis in Radiology of the Chest [15]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	16½	Clinical case work Demonstration	10/31/55	I; 1½ hr. weekly for 11 wk. Mondays	50
43 P 02782	X-Ray Diagnosis [7, 108]	Jewish Hospital Brooklyn, N. Y.	R	G	22	Lecture or panel Demonstration	10/55	I; 2 hr. weekly for 11 wk. Tuesdays	30
43 P 02694	Radiology PM 1—Radiological Physics	Columbia-Presbyterian Medical Center 630 W. 168th St., New York	S	S	28	Lecture or panel	1/10/56	I; 1 hr. twice weekly for 14 wk. Tuesdays, Fridays	50
43 P 03383	654-A Radiobiology [9]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	40	Lecture or panel	1/26/56	I; 2 hr. weekly for 20 wk. Thursdays	75
43 P 04501	X-Ray Interpretation [51]	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	S	G	12	Small group discussion Demonstration	2/ 9/56	I; 2 hr. weekly for 6 wk. Thursdays	60
43 P 02674	Radiology PM 32—Roentgen Diagnosis of Lesions of the Gastrointestinal Tract [126]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	10	Clinical case work Lecture or panel	3/ 5/56	C; 10 days	50
43 P 02673	Radiology PM 31—Radiology of the Chest [108]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	10½	Clinical case work Lecture or panel	3/19/56	C; 7 days	50
43 P 02676	Radiology PM 34—Differential Diagnosis in Radiology of the Chest [15]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	16½	Clinical case work Demonstration	4/ 2/56	I; 1½ hr. weekly for 11 wk. Mondays	50
43 P 03158	Roentgen Interpretation	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	480	Laboratory work Clinical case work	4/ 2/56	C; 12 wk.	300
43 P 03160	Advanced Diagnostic Roentgenology and Radiotherapy	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	480	Laboratory work Clinical case work	4/ 2/56	C; 12 wk.	300
43 P 02696	Radiology PM 33—Radium Therapy	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	14	Lecture or panel	4/20/56	I; 1 hr. twice weekly for 7 wk. Tuesdays, Fridays	50
43 P 02790	Roentgen Diagnosis in Gastroenterology [7, 16]	Beth-El Hospital Brooklyn, N. Y.	R	G	8	Lecture or panel Demonstration	4/56	I; 1 hr. weekly for 8 wk. Tuesdays	20
43 P 02791	X-Ray Diagnosis [7, 108]	Jewish Hospital Brooklyn, N. Y.	R	G	22	Lecture or panel	4/56	I; 2 hr. weekly for 11 wk. Tuesdays	30
43 P 02698	Radiology PM 40—Clinical Use of Radioactive Isotopes [112]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	170	Laboratory work Lecture or panel	6/ 4/56	C; 5 wk.	200
43 P 02916	Roentgenology 68Cl (of the Eye and Ear) [91]	The New York Eye and Ear Infirmary 218 Second Ave., New York	R	S	40	Demonstration	Inquire	C; 1 wk.	50
43 P 03000	Diagnostic Roentgenology DR1016	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	S	Unknown	Clinical case work Interpretation and technique	Anytime	Specially arranged	150
43 P 03001	Radium and Roentgen Therapy DR1026	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Clinical case work Small group discussion	Anytime	Specially arranged	150
43 P 02697	Radiology PM 35—Use of Radioactive Iodine [187]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	500	Laboratory work Small group discussion	Arranged	Specially arranged	300
43 P 02700	Radiology PM 51—Radiotherapy	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	S	S	1000	Laboratory work Clinical case work	Arranged	Specially arranged 6 or 12 mo.	300 for 6 mo.; 600 for 12 mo.
43 P 03162	Diagnostic Roentgenology and Radiation Therapy	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	1920	Laboratory work Clinical case work	Arranged	Specially arranged	1000
43 P 03603	Radiological Health—Basic Course [127, 5, 16]	Robert A. Taft Sanitary Engineering Center 4676 Columbia Parkway, Cincinnati 26	S	B	60	Laboratory work Lecture or panel	1/ 9/56	C; 2 wk.	Nil
43 P 03606	Radiological Health—Occupational Radiation Protection [127, 5, 16]	Robert A. Taft Sanitary Engineering Center 4676 Columbia Parkway, Cincinnati 26	S	B	60	Laboratory work Lecture or panel	1/23/56	C; 2 wk.	Nil

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43 P 03664	Radiological Health—Basic Course [127, 5, 16]	Robert A. Taft Sanitary Engineering Center 4676 Columbia Parkway, Cincinnati 26	S	B	60	Laboratory work Lecture or panel	4/16/56	C; 2 wk.	Nil
43 P 03665	Radiological Health—Environmental Radiation Sanitation [127, 5, 16]	Robert A. Taft Sanitary Engineering Center 4676 Columbia Parkway, Cincinnati 26	S	B	60	Laboratory work Lecture or panel	4/30/56	C; 2 wk.	Nil
43 P 03795	Radiobiology [28, 5, 16]	Reed College Portland 2, Ore.	S	B	438	Laboratory work Small group discussion	8/ 1/56	C; 25 wk.	Upon request
43 P 04100	Radiology [51, 5]	University of Tennessee Medical College 874 Union Ave., Memphis, Tenn.	R	G	23	Clinical case work Small group discussion	9/21/55	C; 3 days	50
43 P 04173	X-Ray Interpretation [206]	The University of Texas Postgraduate School of Medicine, San Angelo Division 219 S. Magdalen, San Angelo, Texas	R	B	18	Demonstration	9/11/55	I; 2 hr. monthly for 9 mo. Sundays	18
43 P 04166	X-Ray Interpretation	The University of Texas Postgraduate School of Medicine, Texas Medical Center Houston, Texas	R	G	22	Lecture or panel	2/ 6/56	I; 2 hr. weekly for 11 wk. Mondays	25
		44. SURGERY							
44 P 01110	Cardiac Resuscitation Course [59, 62]	Southern California Medical Research Building 2025 Zonal Ave., Los Angeles	S	B	3	Laboratory work Operative surgery	9/55	Specially arranged	30
44 P 01135	General Surgery [173]	Mercy Hospital Hillcrest Drive, San Diego, Calif.	R	B	50	Lecture or panel	7/56	I; 1 hr. weekly for 50 wk. Saturdays	Nil
44 P 01224	873: Cardiac Resuscitation [63, 188, 194]	University of Southern California School of Medicine 2025 Zonal Ave., Los Angeles 33	S	B	3	Laboratory work	Continuous	C; 1 day	30
44 P 01351	Surgical Physiology [326, 5]	George Washington University Hospital 901 23rd St., N. W., Washington 7, D. C.	R	B	30	Lecture or panel	2/27/56	C; 5 days	75
44 P 01531	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	9/12/55	C; 2 wk.	250
44 P 01679	Surgical Technic with Practice [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	50	Laboratory work Operative surgery	9/14/55	I; 5 hr. weekly for 10 wk. Wednesdays	250
44 P 01568	Surgery of the Colon and Rectum [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	35	Laboratory work Clinical case work	9/19/55	C; 1 wk.	125
44 P 01683	Panel Course in Gastrointestinal Surgery [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	60	Laboratory work Clinical case work	9/21/55	I; 6 hr. weekly for 10 wk. Wednesdays	250
44 P 01688	Clinical Surgery [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Operative surgery	9/21/55	I; 3 hr. weekly for 10 wk. Wednesdays	150
44 P 01532	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	9/26/55	C; 2 wk.	250
44 P 01560	Two-Week Intensive Review Course Considering Basic Principles in General Surgery [118, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	85	Laboratory work Clinical case work	9/26/55	C; 2 wk.	200
44 P 01555	General Surgery (A Two Week Course) [58, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	70	Laboratory work Clinical case work	10/ 3/55	C; 2 wk.	250
44 P 01533	Course 1—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	10/10/55	C; 2 wk.	250
44 P 01547	Course 2—General Surgery [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	190	Laboratory work Clinical case work	10/10/55	C; 4 wk.	325
44 P 01566	Esophageal Surgery [195, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	25	Laboratory work Clinical case work	10/10/55	C; 1 wk.	150
44 P 01557	General Surgery (A One Week Course) [195, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	25	Clinical case work Operative surgery	10/17/55	C; 1 wk.	150

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		44. SURGERY—Continued							
44 P 01509	Surgery of the Colon and Rectum [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	35	Laboratory work Clinical case work	10/17/55	C; 1 wk.	125
44 P 01551	Surgical Anatomy on the Cadaver and Clinical Surgery [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	100	Laboratory work Clinical case work	10/24/55	C; 2 wk.	150
44 P 01502	Breast and Thyroid Surgery [118, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	34	Laboratory work Clinical case work	10/24/55	C; 1 wk.	150
44 P 01575	Gallbladder Surgery [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	10	Laboratory work Clinical case work	10/24/55	C; 3 days	100
44 P 01488	Cardiovascular Surgery	American College of Surgeons (Clinical Congress) 40 E. Erie St., Chicago 11	R	S	12	Lecture or panel	10/31/55	I; 3 hr. daily for 4 days	5
44 P 01489	Preoperative and Postoperative Care	American College of Surgeons (Clinical Congress) 40 E. Erie St., Chicago 11	R	S	12	Lecture or panel	10/31/55	I; 3 hr. daily for 4 days	5
44 P 01490	Gastrointestinal Tract	American College of Surgeons (Clinical Congress) 40 E. Erie St., Chicago 11	R	S	12	Lecture or panel	10/31/55	I; 3 hr. daily for 4 days	5
44 P 01491	Diseases of the Liver, Biliary Tract and Pancreas	American College of Surgeons (Clinical Congress) 40 E. Erie St., Chicago 11	R	S	12	Lecture or panel	10/31/55	I; 3 hr. daily for 4 days	5
44 P 01495	The Management of Injuries of the Hand	American College of Surgeons (Clinical Congress) 40 E. Erie St., Chicago 11	R	S	12	Lecture or panel	10/31/55	I; 3 hr. daily for 4 days	5
44 P 01534	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	11/ 7/55	C; 2 wk.	250
44 P 01681	Surgical Technic with Practice [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	25	Laboratory work Operative surgery	11/22/55	I; 5 hr. weekly for 5 wk. Wednesdays	125
44 P 01535	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	11/28/55	C; 2 wk.	250
44 P 01570	Surgery of the Colon and Rectum [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	35	Laboratory work Clinical case work	11/28/55	C; 1 wk.	125
44 P 01536	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	1/23/56	C; 2 wk.	250
44 P 01558	General Surgery (A One Week Course) [195, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	25	Clinical case work Operative surgery	2/13/56	C; 1 wk.	150
44 P 01680	Surgical Technic with Practice [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	50	Laboratory work Operative surgery	2/ 8/56	I; 5 hr. weekly for 10 wk. Wednesdays	250
44 P 01537	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	2/ 6/56	C; 2 wk.	250
44 P 01538	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	2/20/56	C; 2 wk.	250
44 P 01571	Surgery of the Colon and Rectum [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	35	Laboratory work Clinical case work	2/27/56	C; 1 wk.	125
44 P 01548	Course II—General Surgery [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	190	Laboratory work Clinical case work	3/ 5/56	C; 4 wk.	325
44 P 01539	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	3/ 6/56	C; 2 wk.	250
44 P 01552	Surgical Anatomy on the Cadaver and Clinical Surgery [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	100	Laboratory work Clinical case work	3/19/56	C; 2 wk.	150

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44 P 01689	Clinical Surgery [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Clinical case work Operative surgery	3/21/56	I; 3 hr. weekly for 10 wk. Wednesdays	150
44 P 01561	Two-Week Intensive Review Course Considering Basic Principles in General Surgery [115, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	85	Laboratory work Clinical case work	3/26/56	C; 2 wk.	200
44 P 01540	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	4/ 2/56	C; 2 wk.	250
44 P 01572	Surgery of the Colon and Rectum [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	35	Laboratory work Clinical case work	4/ 9/56	C; 1 wk.	125
44 P 01576	Gallbladder Surgery [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	10	Laboratory work Clinical case work	4/ 9/56	C; 3 days	100
44 P 01541	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	4/16/56	C; 2 wk.	250
44 P 01682	Surgical Technic [5, 58]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	25	Laboratory work Operative surgery	4/18/56	I; 5 hr. weekly for 5 wk. Wednesdays	125
44 P 01556	General Surgery (A Two-Week Course) [58, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	70	Laboratory work Clinical case work	4/23/56	C; 2 wk.	250
44 P 01542	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	4/30/56	C; 2 wk.	250
44 P 01573	Surgery of the Colon and Rectum [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	35	Laboratory work Clinical case work	5/ 7/56	C; 1 wk.	125
44 P 01543	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	5/14/56	C; 2 wk.	250
44 P 01559	General Surgery (A One Week Course) [195, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	25	Clinical case work Operative surgery	5/21/56	C; 1 wk.	150
44 P 01544	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	6/ 4/56	C; 2 wk.	250
44 P 01549	Course 2—General Surgery [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	190	Laboratory work Clinical case work	6/ 4/56	C; 4 wk.	325
44 P 01567	Esophageal Surgery [195, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	25	Laboratory work Clinical case work	6/11/56	C; 1 wk.	150
44 P 01574	Surgery of the Colon and Rectum [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	S	35	Laboratory work Clinical case work	6/11/56	C; 1 wk.	125
44 P 04625	Two Week Preassembly Post-graduate Course [5, 173, 339]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	S	B	90	Laboratory work Clinical case work	7/ 9/56	C; 2 wk.	150
44 P 01553	Surgical Anatomy on the Cadaver and Clinical Surgery [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	100	Laboratory work Clinical case work	6/18/56	C; 2 wk.	150
44 P 01563	Breast and Thyroid Surgery [118, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	34	Laboratory work Clinical case work	6/18/56	C; 1 wk.	150
44 P 01577	Gallbladder Surgery [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	10	Laboratory work Clinical case work	6/25/56	C; 3 days	100
44 P 01545	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	7/23/56	C; 2 wk.	250
44 P 01546	Course I—Surgical Technic [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	90	Laboratory work Clinical case work	8/ 6/56	C; 2 wk.	250
44 P 01550	Course II—General Surgery [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	190	Laboratory work Clinical case work	8/ 6/56	C; 4 wk.	325

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		44. SURGERY—Continued							
44 P 01554	Surgical Anatomy on the Cadaver and Clinical Surgery [19, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	100	Laboratory work Clinical case work	8/20/56	C; 2 wk.	150
44 P 01578	Treatment of Varicose Veins [91, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	10	Laboratory work Clinical case work	Arranged	C; 2 days	50
44 P 01707	Treatment of Varicose Veins [5, 199]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	10	Laboratory work Clinical case work	Arranged	I; 5 hr. weekly for 2 wk. Wednesdays	50
44 P 02014	General Surgery 1 [310, 313]	Massachusetts General Hospital Fruit Street, Boston	R	B	150	Clinical case work Small group discussion	10/ 3/55	C; 4 wk.	250
44 P 02007	Surgical Anatomy [51]	Harvard Medical School 25 Shattuck St., Boston	S	S	140	Laboratory work Clinical case work	3/ 5/56	C; 8 wk.	200
44 P 02021	General Surgery 1 [310, 313]	Massachusetts General Hospital Fruit Street, Boston	R	B	150	Clinical case work Small group discussion	5/14/56	C; 4 wk.	250
44 P 02034	General Surgery 2 [102, 310]	Massachusetts General Hospital Fruit Street, Boston	S	S	Unknown	Laboratory work Clinical case work	Arranged	Specially arranged for 3 mo.	200
44 P 02160	Clinical Exercises for Practitioners [20]	Department of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	R	B	48	Lecture or panel Demonstration	10/ 5/55	I; 4 hr. weekly for 12 wk. Wednesdays	25
44 P 02311	Emergency Surgery for General Physicians [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Lecture or panel	1/30/56	C; 3 days	25
44 P 02325	Surgery for Surgeons [5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	S	16	Lecture or panel	5/24/56	C; 3 days	25
44 P 01866	Surgery [170]	University of Kansas Medical Center 39th and Rainbow Blvd., Kansas City 12, Kan.	S	B	28	Operative surgery Small group discussion	1/16/56	C; 4 days	60
44 P 02227	Surgery Seminar	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	11	Lecture or panel	Unknown	I; 1 hr. weekly for 11 wk.	15
44 P 02440	Surgical Anatomy [5, 169]	Seton Hall University South Orange, N. J.	S	B	40	Lecture or panel Demonstration	11/11/55	I; 2 hr. weekly for 20 wk. Fridays	200
44 P 02437	1. Vascular Surgery 2. Abdominal Surgery [148]	Seton Hall University South Orange, N. J.	S	B	40	Unknown	11/14/55	I; 2 hr. weekly for 20 wk. Mondays	100
44 P 03388	663-A Recent Advances in Surgery [127]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	70	Lecture or panel Demonstration	9/19/55	C; 2 wk.	200
44 P 04496	Dissection of Upper and Lower Extremities Correlated with Clinical Surgery	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	S	B	42	Cadaver dissection with clinical correlation	9/20/55	I; 3½ hr. weekly for 12 wk. Tuesdays	200
44 P 03092	Clinical and Operative (Cadaver) Surgery [102]	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	164	Laboratory work Clinical case work	10/ 3/55	C; 4 wk.	200
44 P 03094	Clinical Surgery [102]	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	144	Laboratory work Clinical case work	10/ 3/55	C; 4 wk.	100
44 P 03095	Combined Surgical Course Including Cadaver Surgery and Gynecology [51]	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	420	Laboratory work Clinical case work	10/ 3/55	C; 8 wk.	350
44 P 02678	Surgery PM 31—Minor Surgery [102]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	27	Clinical case work Small group discussion	10/ 3/55	C; 3 days	75
44 P 03386	661-A Review of General Surgery [127]	New York University Post-Graduate Medical School 550 First Ave., New York	R	S	140	Lecture or panel Demonstration	10/ 3/55	C; 4 wk.	300
44 P 02783	Office Surgery [7]	St. John's Episcopal Hospital Brooklyn, N. Y.	R	G	12	Clinical case work Lecture or panel	10/55	I; 1½ hr. weekly for 8 wk. Tuesdays	20
44 P 02472	Postgraduate Clinical Seminar	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	R	B	6	Small group discussion Lecture or panel	11/10/55	C; 1 day	10

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44 P 02477	Recent Advances in Surgery Including Surgical Specialties	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	R	B	20	Small group discussion Lecture or panel	11/10/55	C; 2½ days	25
44 P 03389	6612-A Cardiac Arrest and Resuscitation [18]	New York University Post-Graduate Medical School 550 First Ave., New York	Unknown	B	8	Lecture or panel Slides and movies	11/11/55	C; 1 day	50
44 P 02680	Surgery PM 32—Office Proctology	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	14	Clinical case work Small group discussion	11/14/55	C; 2 days	50
44 P 03391	664-A Trauma (Excluding Fractures) [31]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	39	Laboratory work Small group discussion	11/28/55	C; 5½ days	125
44 P 03392	666-A Diagnosis and Treatment of Trauma [58]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	42	Lecture or panel Demonstration	12/ 5/55	C; 6 days	90
44 P 04497	Dissection of Thorax and Abdomen Correlated with Clinical Surgery	Albany Medical College 47 New Scotland Ave., Albany, N. Y	S	B	42	Cadaver dissection with clinical correlation	12/13/55	I; 3½ hr. weekly for 12 wk. Tuesdays	200
44 P 02679	Surgery PM 31—Minor Surgery [102]	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	27	Clinical case work Small group discussion	1/ 9/56	C; 3 days	75
44 P 03385	660-A Physiological and Pharmacological Principles Underlying the Surgical Management of Diseases of and Pertaining to the Parasympathetic and Sympathetic Nervous System [58]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	42	Demonstration Cadaver discussions	1/16/56	C; 6 days	150
44 P 03387	662-A Basic Problems in Cancer Therapy (For Surgeons) [127]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	84	Lecture or panel Demonstration	1/23/56	C; 12 days	200
44 P 03394	668-A Diagnosis and Treatment of Fractures and Dislocations [58]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	70	Clinical case work Lecture or panel	1/30/56	C; 2 wk.	Unknown
44 P 02681	Surgery PM 32—Office Proctology	Mount Sinai Hospital Fifth Avenue and 100th Street, New York	R	G	14	Clinical case work Small group discussion	2/20/56	C; 2 days	50
44 P 04498	Dissection of Head and Neck Correlated with Clinical Surgery	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	S	B	42	Cadaver dissection with clinical correlation	3/13/56	I; 3½ hr. weekly for 12 wk. Tuesdays	200
44 P 03393	667-A Surgery of the Hand [58]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	42	Lecture or panel Demonstration	3/19/56	C; 6 days	90
44 P 01101	Operative Surgery [19]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	S	30	Operative surgery Small group discussion	3/21/56	I; 2½ hr. weekly for 12 wk. Wednesdays	200
44 P 03390	6612-B Cardiac Arrest and Resuscitation [18]	New York University Post-Graduate Medical School 550 First Ave., New York	Unknown	B	8	Lecture or panel Slides and movies	3/23/56	C; 1 day	50
44 P 03396	Combined Surgical Course Including Cadaver Surgery and Gynecology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	420	Laboratory work Clinical case work	4/2/56	C; 8 wk.	350
44 P 03097	Clinical Surgery	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	144	Laboratory work Clinical case work	4/2/56	C; 4 wk.	100
44 P 03098	Clinical and Operative (Cadaver) Surgery	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	164	Laboratory work Clinical case work	4/2/56	C; 4 wk.	100
44 P 03102	Anatomy—Surgical (A)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	18	Laboratory work Small group discussion	Arranged	Specially arranged for 2 wk	300
44 P 03103	Anatomy—Surgical (C)	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	18	Laboratory work Operative surgery	Arranged	Specially arranged for 2 wk.	300
44 P 03002	Surgical Aspects of Peripheral Vascular Diseases DS10.6 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	S	Unknown	Small group discussion Demonstration	Anytime	Specially arranged	200
44 P 03003	Gastrointestinal Surgery DS1026 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Small group discussion Demonstration	Anytime	Specially arranged	200
44 P 03004	Peritoneoscopy DS1036 [32]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	B	Unknown	Small group discussion Lecture or panel	Anytime	Specially arranged	100

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Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		44. SURGERY—Continued							
44 P 03005	Surgical Technique DS1046	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	S	Unknown	Small group discussion Lecture or panel	Anytime	Specially arranged	375
44 P 03580	Postgraduate Course in Surgery [77, 5]	N. C. Memorial Hospital Chapel Hill, N. C.	R	B	18	Lecture or panel	9/28/55	C; 3 days	20
44 P 03652	Review Course in General Surgery [53]	Frank E. Bunts Educational Institute 2020 E. 93rd St., Cleveland	R	B	10	Lecture or panel	11/ 9/55	C; 2 days	15
44 P 03806	General Surgery [169]	University of Oregon Medical School 3181 S. W. Sam Jackson Park Rd. Portland, Ore.	R	B	38	Clinical case work Operative surgery	10/10/55	C; 5 days	50
44 P 04107	Abdominal Surgery [51, 5]	University of Tennessee Medical College 874 Union Ave., Memphis, Tenn.	R	G	23	Clinical case work Small group discussion	11/23/55	C; 3 days	50
44 P 04100	Emergency Surgery—Acute Injuries [51, 5]	University of Tennessee Medical College 874 Union Ave., Memphis, Tenn.	R	G	23	Clinical case work Small group discussion	7/27/56	C; 3 days	50
44 P 04133	Surgery of Trauma [207, 5]	The University of Texas Southwestern Medical School 5323 Harry Hines Blvd., Dallas, Texas	R	B	21	Lecture or panel	12/ 5/55	C; 3 days	30
44 P 04184	Fourth Postgraduate Conference in Medicine and Surgery [208, 206]	The University of Texas Postgraduate School of Medicine, Temple Division, Scott and White (Clinic) Hospitals Temple, Texas	S	B	27	Laboratory work Clinical case work	3/ 5/56	C; 3 days	5
44 P 04296	General Surgery [209, 5]	University of Washington School of Medicine Health Sciences Building, Seattle	R	B	Unknown	Clinical case work Lecture or panel	Spring, 1956	To be arranged	Unknown
44 P 04368	Observation Course in Surgery	University of Wisconsin Medical School 418 N. Randall Ave., Madison, Wis.	R	S	Variable	Clinical case work	Anytime	C; 4 wk.	100
44 P 01379	Weekly Surgical Conference [387]	Memorial Hospital 23rd and Evans, Cheyenne, Wyo.	R	B	52	Clinical case work Lecture or panel	Every Saturday	I; 1 hr. weekly for 1 wk. Saturdays	Nil
44 P 04420	Refresher Course for General Practitioners [52]	Vancouver General Hospital Vancouver, British Columbia, Canada	R	G	18	Lecture or panel Theatre clinics	2/ 6/56	C; 3 days	15
		45. THORACIC SURGERY							
45 P 01103	Thoracic Surgery [64]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	B	8	Lecture or panel	4/18/56	I; 2 hr. weekly for 4 wk. Wednesdays	30
45 P 01564	Thoracic Surgery [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Laboratory work Clinical case work	10/ 3/55	C; 1 wk.	125
45 P 01494	Surgical Aspects of Pulmonary Disease	American College of Surgeons (Clinical Congress) 40 E. Erie St., Chicago 11	R	S	12	Lecture or panel	10/31/55	I; 3 hr. daily for 4 days	5
45 P 01565	Thoracic Surgery [18, 5]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	30	Laboratory work Clinical case work	6/ 4/56	C; 1 wk.	125
45 P 03105	Thoracic Surgery	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	12	Laboratory work Clinical case work	Arranged	Specially arranged	200
45 P 02954	Diseases of the Chest DM1027	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	B	Unknown	Demonstration	Anytime	Specially arranged	100
45 P 03006	Thoracic Surgery DS1056 [8]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	S	S	Unknown	Small group discussion Lecture or panel	Anytime	Specially arranged	375
45 P 03674	The Prevention and Management of Cardiac Arrest [171, 58, 5, 172]	Western Reserve University School of Medicine 2109 Adelbert Road, Cleveland	S	B	10½	Operative surgery	9/23/55	C; 1½ days	20 and 40
45 P 03676	The Prevention and Management of Cardiac Arrest [171, 58]	Western Reserve University School of Medicine 2109 Adelbert Rd., Cleveland	S	B	10½	Operative surgery	9/23/55	C; 1½ days	20 and 40

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46. TRAUMATOLOGY

46 P 04565	Surgery in Acute Trauma [5]	Letterman Army Hospital San Francisco	R	B	40	Clinical case work Lecture or panel	4/ 2/56	C; 5 days	Nil
46 P 04563	Surgery in Acute Trauma [5]	Fitzsimons Army Hospital Denver 8	R	B	40	Clinical case work Lecture or panel	4/ 2/56	C; 5 days	Nil
46 P 04564	Surgery in Acute Trauma [5]	Walter Reed Army Medical Center Washington 12, D. C.	R	B	40	Clinical case work Lecture or panel	4/ 2/56	C; 5 days	Nil
46 P 01826	Trauma and Fractures Conference [225]	State University of Iowa College of Medicine Iowa City	R	B	11	Lecture or panel Demonstration	9/16/55	C; 1½ days	15
46 P 03988	Symposium on Trauma [264]	Four centers in eastern Oregon to be selected	S	G	5	Laboratory work Clinical case work	3/56	C; 1 day	Nil
46 P 04561	Surgery in Acute Trauma [5]	Valley Forge Army Hospital Phoenixville, Pa.	R	B	24	Clinical case work Lecture or panel	4/ 2/56	C; 3 days	Nil
46 P 01436	Surgery in Acute Trauma [5]	Brooke Army Hospital Fort Sam Houston, Texas	R	B	40	Clinical case work	4/ 2/56	C; 5 days	Nil
46 P 04566	Surgery in Acute Trauma [5]	William Beaumont Army Hospital Fort Bliss, Texas	R	B	40	Clinical case work Lecture or panel	4/ 2/56	C; 5 days	Nil
46 P 04562	Surgery in Acute Trauma [5]	Madigan Army Hospital Tacoma, Wash.	R	B	40	Clinical case work Lecture or panel	4/ 2/56	C; 5 days	Nil
46 P 04560	Surgery in Acute Trauma [5]	Tripler Army Hospital Honolulu, Hawaii	R	B	40	Clinical case work Lecture or panel	4/ 2/56	C; 5 days	Nil

47. TROPICAL MEDICINE

47 P 03378	735-A Tropical Medicine [172]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	245	Laboratory work Lecture or panel	Unknown	C; 7 wk.	300
47 P 02952	Parasitology DH1036	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	Unknown	Laboratory work Small group discussion	Anytime	C; 3 wk.	75

48. UROLOGY

48 P 01095	General Urology [64]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 33	R	G	13½	Lecture or panel	1/ 4/56	I; 1½ hr. weekly for 9 wk. Wednesdays	35
48 P 01633	Urology [5, 195]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	S	80	Laboratory work Clinical case work	10/10/55	C; 2 wk.	225
48 P 01634	Urology [5, 195]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	R	B	80	Laboratory work Clinical case work	4/16/56	C; 2 wk.	225
48 P 01824	Urology Postgraduate Course [207]	State University of Iowa College of Medicine University Hospital Iowa City	R	B	10	Clinical case work Lecture or panel	3/30/56	C; 1½ days	15
48 P 02284	Postgraduate Course in Urology—North Central Section of American Urological Association [219]	Mayo Clinic Rochester, Minn.	R	S	24	Small group discussion Lecture or panel	12/ 1/55	C; 3 days	80
48 P 03147	Instrumental Urology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	24	Laboratory work Clinical case work	Arranged	Specially arranged	100
48 P 03149	Urological Surgery	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	S	80	Laboratory work Operative surgery	Arranged	Specially arranged	150
48 P 02820	Postgraduate Course in Urology [174]	St. Clare's Hospital 415 W. 51st St., New York 19	S	S	1 yr.	Unknown	Anytime	Specially arranged	750
48 P 03396	674-A Refresher Course in Basic Urology [117]	New York University Post-Graduate Medical School 550 First Ave., New York	R	B	35	Laboratory work Lecture or panel	1/16/56	C; 1 wk.	60
48 P 03395	671-A Advanced Course in Urology [92]	New York University Post-Graduate Medical School 550 First Ave., New York	S	S	140	Laboratory work Clinical case work	4/ 2/56	C; 4 wk.	175
48 P 04509	Kimbrough Urological Seminar [5, 175]	Brooke Army Hospital Fort Sam Houston, Texas	R	B	20	Lecture or panel	9/22/55	C; 2½ days	Nil
48 P 04179	Clinical Urology [13, 206]	The University of Texas Post-graduate School of Medicine, Temple Division, Scott and White (Clinic) Hospitals Temple, Texas	R	G	88	Clinical case work	Arranged	Specially arranged	25

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		43. OTHER							
49 P 01202	Medicine for General Practitioners [5, 84]	East Oakland Hospital 2648 E. 14th St., Oakland, Calif.	R	G	24	Lecture or panel Small group discussion	9/20/55	I; 2 hr. weekly for 12 wk. Tuesdays	50
49 P 01143	Course in Poliomyelitis [5, 52]	Orthopedic Hospital 2400 S. Flower St., Los Angeles 7 and Rancho Los Amigos Respiratory Center for Poliomyelitis Hondo, Calif.	S	B	44	Lecture or panel	9/26/55	C; 5 days	15
49 P 01205	Applied Therapeutics [84]	University of California Extension 540 Powell St., San Francisco 22	R	B	30	Lecture or panel Demonstration	10/17/55	C; 3 days	To be announced
49 P 01154	Postgraduate Breakfast Study Club [33]	Saint Joseph Hospital 501 S. Buena Vista, Burbank, Calif.	R	B	40	Small group discussion Lecture or panel	1/12/56	I; 1 hr. weekly for 40 wk. Wednesdays	Nil
49 P 01144	Course in Poliomyelitis [5, 52]	Orthopedic Hospital 2400 S. Flower St., Los Angeles 7 and Rancho Los Amigos Respiratory Center for Poliomyelitis Hondo, Calif.	S	B	44	Lecture or panel	4/30/56	C; 5 days	15
49 P 02611	Neuroroentgenology [116]	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	10	Lecture or panel	9/26/55	I; 2 hr. weekly for 5 wk. Mondays	Nil
49 P 01271	Neuropathology [116]	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	20	Laboratory work Lecture or panel	9/28/55	I; 2½ hr. weekly for 8 wk. Wednesdays	Nil
49 P 02613	Neuroanatomy [116]	Yale University School of Medicine 333 Cedar St., New Haven, Conn. and Connecticut State Hospital Middletown, Conn.	S	S	27	Laboratory work Lecture or panel	9/28/55	I; 2½ hr. weekly for 11 wk. Wednesdays	Nil
49 P 01276	Connecticut Clinical Congress [176]	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	R	B	36	Clinical case work Small group discussion	9/55	C; 2 days	3
49 P 02612	Electroencephalography [116]	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	6	Lecture or panel	10/31/55	I; 2 hr. weekly for 3 wk. Mondays	Nil
49 P 01274	Child Psychiatry [116]	Yale University School of Medicine 333 Cedar St., New Haven, Conn	S	S	18	Lecture or panel	3/12/56	I; 3 hr. weekly for 6 wk. Mondays	Nil
49 P 01275	Pediatric Neurology [116]	Yale University School of Medicine 333 Cedar St., New Haven, Conn.	S	S	36	Lecture or panel	4/23/56	I; 12 hr. weekly for 3 wk. Mondays	Nil
49 P 01298	Yale Summer School of Alcohol Studies [5]	Yale University Center of Alcohol Studies 52 Hillhouse Ave., New Haven, Conn.	S	B	75	Small group discussion Lecture or panel	7/ 2/56	C; 4 wk.	250
49 P 01333	Fifth Midwinter Seminar	The Medical Society of D. C. Auditorium 1718 M St., N. W., Washington, D. C.	R	B	6	Lecture or panel	2/56	C; 3 days	Nil
49 P 01832	Recent Advances in the Treatment of Thyroid Diseases [80]	State University of Iowa College of Medicine Iowa City	R	B	6	Lecture or panel	10/13/55	C; 1 day	10
49 P 02077	Massachusetts Medical Society—Semi-Annual Meetings	Hotel Statler Boston	R	G	7	Unknown	Arranged	Specially arranged	Nil
49 P 02242	Nutrition [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	33	Lecture or panel	3/56	I; 1 hr. weekly for 11 wk.	35
49 P 02174	Clinical Use of Radioactive Isotopes	Dept. of Postgraduate Medicine, University of Michigan Medical School University Hospital Ann Arbor, Mich.	S	B	Unknown	Laboratory work Clinical case work	Specially arranged	Specially arranged	50 weekly
49 P 02215	Physiological Chemistry Seminar	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	11	Small group discussion	Unknown	I; 1 hr. weekly for 11 wk.	15
49 P 02223	Cancer Detection Clinic [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	G	22	Clinical case work	Unknown	I; 2 hr. weekly for 11 wk.	25
49 P 02229	Biochemical Applications of Radioactive Isotopes [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	44	Laboratory work Lecture or panel	Unknown	I; 4 hr. weekly for 11 wk.	30
49 P 02230	Intermediary Metabolism [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	11	Lecture or panel	Unknown	I; 1 hr. weekly for 11 wk.	15
49 P 02243	Quantitative Methods and Metabolism [16]	Wayne University College of Medicine 1401 Rivard, Detroit	R	B	176	Laboratory work Lecture or panel	Unknown	I; 16 hr. weekly for 11 wk.	50

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49 P 02244	Survey of Medical Chemistry	Wayne University College of Medicine 1403 Rivard, Detroit	R	B	11	Lecture or panel	Unknown	I; 1 hr. weekly for 11 wk.	15
49 P 02317	Clinical Chemistry for General Physicians [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	16	Laboratory work Small group discussion	10/ 6/55	C; 3 days	25
49 P 02312	Mental Deficiency for General Physicians, Pediatricians, and Child Psychiatrists [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	B	16	Lecture or panel	2/ 2/56	C; 3 days	25
49 P 02323	Electrocardiography for General Physicians [33, 5]	University of Minnesota Center for Continuation Study Minneapolis 14	R	G	35	Small group discussion Interpretation of electrocardiograms	5/ 7/56	C; 1 wk.	40
49 P 01779	Medical Writing and Editing [73, 74]	Hotel Jefferson St. Louis	S	B	9	Lecture or panel Demonstration	9/30/55	C; 2 days	5
49 P 02365	Homer G. Phillips Hospital Internes Alumni Association Course [5]	Homer G. Phillips Hospital 2601 N. Whittier, St. Louis 13	R	B	44	Small group discussion Lecture or panel	4/56	Specially arranged	Nil
49 P 04505	Two-Way Radio Conferences—Albany Medical College to Area Hospitals	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	R	B	36	Discussion of special topics by radio	10/ 5/55	I; 1 hr. weekly for 36 wk. Wednesdays	Nil
49 P 02226	Cerebral Palsy—PM 1	Columbia Presbyterian Medical Center 630 W. 168th St., New York 32	R	G	83	Clinical case work Small group discussion	10/10/55	C; 3 wk.	100
49 P 03822	Current Concepts of Rheumatic Diseases and Their Management [240, 5, 241]	Cornell University Medical College and Hospital for Special Surgery New York	S	S	40	Lecture or panel	10/31/55	C; 5 days	30 to members
49 P 02849	Med PM 71—Diseases of the Chest [29]	Montefiore Hospital East Gun Hill Road, New York 67	R	B	52	Laboratory work Clinical case work Small group discussion	1/ 6/56	I; 2½ hr. weekly for 20 wk. Fridays	100
49 P 02901	Growth and Development of Personality from Infancy Through Adolescence	Department of Health 125 Worth St., New York	S	B	18	Lecture or panel	2/56	I; 1½ hr. weekly for 12 wk. Thursdays or Fridays	Nil
49 P 02924	Cerebral Palsy—PM 1	Columbia Presbyterian Medical Center 630 W. 168th St., New York 32	R	G	83	Clinical case work Small group discussion	4/16/56	C; 3 wk.	100
49 P 03106	Vascular Surgery	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	16	Laboratory work Clinical case work	Arranged	Specially arranged for 4 wk.	200
49 P 03108	Arthritis	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	G	8	Laboratory work Clinical case work	Arranged	Specially arranged	50
49 P 03119	Advanced Otology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	26	Laboratory work Clinical case work	Arranged	Specially arranged	250
49 P 03123	Seminar in Ophthalmology and Otolaryngology	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	R	B	40	Laboratory work Small group discussion	Arranged	Specially arranged	50
49 P 03128	Bronchoscopy	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	8	Laboratory work Clinical case work	Arranged	Specially arranged	150
49 P 03140	Diagnosis and Treatment of Diseases of the Heart	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	G	15	Laboratory work Clinical case work	Arranged	Specially arranged	75
49 P 03155	Practical Course in Superficial and Deep X-Ray Therapy	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	40	Laboratory work Clinical case work	Arranged	Specially arranged for 4 wk.	100
49 P 03156	Advanced Course in Radiotherapy	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	S	40	Laboratory work Clinical case work	Arranged	Specially arranged	100
49 P 03161	Traumatic Surgery Including General Surgery, Orthopedic Surgery and Physical Medicine	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	S	B	320	Laboratory work Clinical case work	Arranged	Specially arranged	200
49 P 04502	Clinical Refresher Course	Albany Medical College 47 New Scotland Ave., Albany, N. Y.	R	B	As desired	Course individually arranged	Individually arranged	Specially arranged	60 for each 5 days
49 P 02950	Immunology DB1026	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	R	G	Unknown	Laboratory work Small group discussion	Anytime	C; 3 wk.	50
49 P 03341	5611-A Special Observation Course [13]	New York University Post-Graduate Medical School 550 First Ave., New York	S	B	140	Observation	Unknown	C; 4 wk.	100

References will be found on pages 1129-1131.

Postgraduate Continuation Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		49. OTHER Continued							
49 P 03638	Pain from the Standpoint of Pathology, Physiology and Pharmacology [202]	Academy of Medicine of Cleveland and Cuyahoga County 2060 Adelbert Rd., Cleveland 6	S	B	3	Lecture or panel	4/20/56	C; 1 day	Nil
49 P 03757	Oklahoma City Clinical Society [172, 178, 5, 179]	Biltmore Hotel Grand and Harvey avenues, Oklahoma City	R	B	30	Lecture and panel	10/24/55	C; 4 days	20
49 P 03807	Advances in Medicine and Surgery [188, 189]	Graduate School of Medicine, University of Pennsylvania Philadelphia	R	B	40	Small group discussion Lecture or panel	9/19/55	C; 1 wk.	100
49 P 03843	Arthritis, Rheumatology and Allied Diseases [91, 5]	Albert Einstein Medical Center, Northern Division York and Tabor roads, Philadelphia 41	R	G	30	Clinical case work Lecture or panel	Fall, 1955	I; 3 hr. weekly for 10 wk. Wednesdays	50
49 P 03847	Postgraduate Hospital Training Course [139, 5]	Albert Einstein Medical Center, Northern Division York and Tabor roads, Philadelphia 41	R	G	487½	Clinical case work Lecture or panel	Fall, 1955	C; 15 wk.	50
49 P 03881	Postgraduate Institute Philadelphia County Medical Society [209]	Philadelphia County Medical Society Bellevue-Stratford Hotel, Philadelphia	R	B	21	Lecture or panel	4/10/56	C; 4 days	10
49 P 03908	Applied Aspects of Calcium and Phosphorus Metabolism [95]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	16	Lecture or panel	5/23/56	C; 2 days	40
49 P 03917	Ionic (Acid Base) Balance and Water Balance with Clinical Applications [85]	Graduate School of Medicine, University of Pennsylvania Philadelphia	R	B	24	Small group discussion Lecture or panel	5/23/56	C; 3 days	60
49 P 03918	Modern Viewpoints in Carbohydrate and Fat Metabolism with Clinical Applications [95]	Graduate School of Medicine, University of Pennsylvania Philadelphia	S	B	16	Small group discussion Lecture or panel	6/ 6/56	C; 2 days	40
49 P 03916	Electroencephalography [18, 199]	The Institute 111 N. 49th St., Philadelphia	S	B	80	Small group discussion Lecture or panel	By arrangement	C; 2 wk.	200
49 P 03984	Protective Body Mechanics in Arthritis [91, 5, 209]	D. T. Watson Hospital School Leetsdale, Pa.	S	B	40	Clinical case work Small group discussion	Unknown	I; 8 hr. weekly for 5 wk. Thursdays	20
49 P 03985	Evaluation and Treatment of Cerebral Palsy [91, 5, 209]	D. T. Watson Hospital School Leetsdale, Pa.	S	B	80	Clinical case work Small group discussion	Unknown	I; 8 hr. weekly for 10 wk. Tuesdays	20
49 P 03986	Management of Early Poliomyelitis [18, 5, 209]	D. T. Watson Hospital School Leetsdale, Pa.	S	B	40	Clinical case work Small group discussion	Unknown	C; 5 days	20
49 P 04027	Basic Course in Techniques of Using Radioisotopes [259, 5]	Oak Ridge Institute of Nuclear Studies P. O. Box 117, Oak Ridge, Tenn.	S	B	95	Laboratory work Lecture or panel	10/17/55	C; 4 wk.	25
49 P 02466	Basic Course in Techniques of Using Radioisotopes [259, 5]	Oak Ridge Institute of Nuclear Studies P. O. Box 117, Oak Ridge, Tenn.	S	B	95	Laboratory work Lecture or panel	1/ 9/56	C; 4 wk.	25
49 P 04113	Basic Course in Techniques of Using Radioisotopes [259, 5]	Oak Ridge Institute of Nuclear Studies P. O. Box 117, Oak Ridge, Tenn.	S	B	95	Laboratory work Lecture or panel	2/27/56	C; 4 wk.	25
49 P 04111	Basic Course in Techniques of Using Radioisotopes [259, 5]	Oak Ridge Institute of Nuclear Studies P. O. Box 117, Oak Ridge, Tenn.	S	B	95	Laboratory work Lecture or panel	4/16/56	C; 4 wk.	25
49 P 02467	Basic Course in Techniques of Using Radioisotopes [259, 5]	Oak Ridge Institute of Nuclear Studies P. O. Box 117, Oak Ridge, Tenn.	S	B	95	Laboratory work Lecture or panel	6/56	C; 4 wk.	25
49 P 04112	Basic Course in Techniques of Using Radioisotopes [259, 5]	Oak Ridge Institute of Nuclear Studies P. O. Box 117, Oak Ridge, Tenn.	S	B	95	Laboratory work Lecture or panel	7/56	C; 4 wk.	25
49 P 01512	Basic Course in Techniques of Using Radioisotopes [259, 5]	Oak Ridge Institute of Nuclear Studies P. O. Box 117, Oak Ridge, Tenn.	S	B	95	Laboratory work Lecture or panel	8/56	C; 4 wk.	25
49 P 04187	Rheumatic and Collagen Diseases [228, 209]	The University of Texas Postgraduate School of Medicine, San Antonio Division, Robert B. Green Hospital San Antonio, Texas	R	B	8	Small group discussion Lecture or panel	9/28/55	I; 2 hr. weekly for 4 wk. Wednesdays	15
49 P 04163	Radiophysics [150, 16]	The University of Texas Postgraduate School of Medicine, Texas Medical Center Houston, Texas	R	B	24	Lecture or panel	10/55	I; 1 hr. weekly for 24 wk. Thursdays	10

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49 P 04198	To be announced [46, 206]	The University of Texas Postgraduate School of Medicine, El Paso Division El Paso, Texas	R	B	8	Lecture or panel	10/55	C; 1 day	10
49 P 04194	To be announced [46, 206]	The University of Texas Postgraduate School of Medicine, El Paso Division El Paso, Texas	R	B	8	Lecture or panel	12/55	C; 1 day	10
49 P 04447	Demonstration of Clinical Management of Poliomyelitis [125, 381]	The Texas Medical Center Houston, Texas	S	B	24	Small group discussion	2/27/56	C; 4 days	8.50
49 P 04195	To be announced [46, 206]	The University of Texas Postgraduate School of Medicine, El Paso Division, Turner Home El Paso, Texas	R	B	8	Lecture or panel	2/56	C; 1 day	10
49 P 04179	Radiotherapy	The University of Texas Postgraduate School of Medicine, Texas Medical Center Houston, Texas	R	B	13	Lecture or panel	3/56	1; 1 hr. weekly for 13 wk. Mondays	25
49 P 04196	To be announced [46, 206]	The University of Texas Postgraduate School of Medicine, El Paso Division, Turner Home El Paso, Texas	R	B	8	Lecture or panel	4/56	C; 1 day	10
49 P 04197	To be announced [46, 206]	The University of Texas Postgraduate School of Medicine, El Paso Division, Turner Home El Paso, Texas	R	B	8	Lecture or panel	6/56	C; 1 day	10

P—Postgraduate Courses: R—refresher; S—special. Designed for: G—general practitioners; S—specialists; B—both general practitioners and specialists. Time Arrangements: C—concentrated, full-time; I—intermittent.

G—Graduate Courses: C—clinical work; B—basic sciences; B—both. Designed for: G—general practitioners; S—specialists; B—both general practitioners and specialists. Time Arrangements: C—concentrated, full-time; I—intermittent.

B. GRADUATE COURSES

Type: C—Clinical; S—Basic Science; B—Both

Designed for: G—General Practitioners; S—Specialists; B—All Physicians

Time Arrangements: C—Concentrated, full-time; I—Intermittent

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		1. ADMINISTRATIVE MEDICINE							
1 G 428	Hospital Administration [423, 424, 16, 408]	Columbia University School of Public Health and Administrative Medicine 600 W. 168th St., New York 32	B	B	20 mo.	Laboratory work Small group discussion	9/29/55	C; 20 mo.	1,045
1 G 429	Administrative Medicine [423, 424, 16, 152]	Columbia University School of Public Health and Administrative Medicine 600 W. 168th St., New York 32	B	B	20 mo.	Laboratory work Small group discussion	9/29/55	C; 20 mo.	1,045
1 G 792	Medical and Hospital Administration [143, 341, 16, 6, 349]	Graduate School of Public Health, University of Pittsburgh Pittsburgh 13	B & C	B	2 yr.	Laboratory work Small group discussion	9/20/55	C; 21 mo.	800
		3. ANESTHESIOLOGY							
3 G 063	892: Anesthesia [356, 357, 182]	Los Angeles County Hospital 1200 N. State St., Los Angeles 33	B & C	B	384	Clinical case work Small group discussion	Arranged	C; 12 wk.	300
3 G 515	513-A Anesthesiology (Graduate Course) [21, 16, 329, 5, 143]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1600	Laboratory work Clinical case work	9/ 6/55	C; 12 mo.	815
3 G 472	Basic Science in Anesthesiology [143, 423, 340, 16]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York 29	B & C	B	8 mo.	Laboratory work Clinical case work	10/10/55	C; 8 mo.	710
3 G 784	Basic Sciences Related to Anesthesiology [143, 52]	University of Pittsburgh School of Medicine 3941 O'Hara St. (Oakland), Pittsburgh 13	B	B	34	Laboratory work Lectures and panels	6/56	Specially arranged	25
		4. ANATOMY							
4 G 785	Surgical Anatomy [143, 16, 57]	University of Pittsburgh School of Medicine 3941 O'Hara St. (Oakland) Pittsburgh 13	B	B	180	Laboratory work Lectures and panels	10/55	Specially arranged	25

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Graduate Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		7. CARDIOVASCULAR DISEASE							
7 G 069	832: Cardiology and Vascular Disease [338, 357, 5, 143, 182]	Los Angeles County Hospital 1200 N. State St., Los Angeles 33	B & C	B	1664	Laboratory work Clinical case work	7/55	C; 12 mo.	1000
7 G 074	Electrocardiography [143, 5, 349, 428, 52]	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	B & C	B	28	Lectures and panels	9/20/55	C; 12 wk.	79
7 G 501	Electrocardiography [143, 5, 349, 428, 52, 38]	Denver General Hospital Denver	B & C	B	28	Lectures and panels	1/15/56	C; 12 wk.	79
7 G 230	Cardiovascular Disease [510, 143, 5, 331, 130, 16]	Massachusetts General Hospital Fruit Street, Boston	B & C	B	Unknown	Laboratory work Clinical case work	10/ 3/55	Specially arranged for 12 mo.	800
7 G 231	Cardiology I [310, 143, 331, 16, 28]	Beth Israel Hospital 330 Brookline Ave., Boston	B & C	B	Unknown	Laboratory work Clinical case work	1/30/56	Specially arranged for 3 mo.	500
7 G 688	Basic Course in Electrocardiography [178]	University of Oklahoma School of Medicine 800 N. E. 13th St., Oklahoma City	B	B	44	Laboratory work Small group discussion	3/ 5/56	C; 1 wk.	75
7 G 749	Cardiology [329, 16, 5, 143]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
		8. DERMATOLOGY							
8 G 120	Course 3—Dermatology [5, 329, 205]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	C	B	1500	Laboratory work Clinical case work	By appointment	C; 12 mo.	1000
8 G 232	Dermatology and Syphilology [510, 143, 5, 331, 87, 16]	Massachusetts General Hospital Fruit Street, Boston	B & C	B	Unknown	Laboratory work Clinical case work	10/ 3/55	Specially arranged for 12 mo.	800
8 G 819	525-B Dermatology and Syphilology (Graduate Course) [143, 5, 418, 16, 417]	New York University Post-Graduate Medical School 550 First Ave., New York	C	B	1500	Laboratory work Clinical case work	10/ 1/55	C; 12 mo.	400
8 G 820	525-C Dermatology and Syphilology (Graduate Course) [143, 5, 419, 16]	New York University Post-Graduate Medical School 550 First Ave., New York	C	B	1500	Laboratory work Clinical case work	10/ 1/55	C; 12 mo.	200
8 G 969	525-A Dermatology and Syphilology (Graduate Course) [143, 5, 329, 16, 417]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1500	Laboratory work Clinical case work	10/ 1/55	C; 12 mo.	815
8 G 915	Dermatology and Syphilology [348, 329, 5, 143]	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	B & C	B	7728	Laboratory work Clinical case work	10/ 3/55	C; full time for 3 yr.	500
8 G 914	Dermatology and Syphilology [348, 329, 5, 143]	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	B & C	B	7728	Laboratory work Clinical case work	4/ 1/56	C; full time for 3 yr.	500
8 G 516	525-A Dermatology and Syphilology (Graduate Course) [143, 5, 329, 16, 417]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1500	Laboratory work Clinical case work	7/ 1/56	C; 12 mo.	815
8 G 517	525-B Dermatology and Syphilology (Graduate Course) [143, 5, 418, 16, 417]	New York University Post-Graduate Medical School 550 First Ave., New York	C	B	1500	Laboratory work Clinical case work	7/ 1/56	C; 12 mo.	400
8 G 518	525-C Dermatology and Syphilology (Graduate Course) [143, 5, 419, 16]	New York University Post-Graduate Medical School 550 First Ave., New York	C	B	1500	Laboratory work Clinical case work	7/ 1/56	C; 12 mo.	200
8 G 408	Dermatology GM 1-A—Advanced Dermatology [128, 143, 330]	Columbia-Presbyterian Medical Center 630 W. 168th St., New York	B & C	S	Arranged	Laboratory work Clinical case work	Arranged	Specially arranged for 6 or 12 mo.	300 for 6 mo.
8 G 407	Dermatology GM 1—Clinical Dermatology [330, 143]	Columbia-Presbyterian Medical Center 630 W. 168th St., New York	B & C	S	Arranged	Laboratory work Clinical case work	Arranged	Specially arranged for 6 or 12 mo.	300
8 G 750	Dermatology [371, 16, 329, 5, 143]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
		9. ENDOCRINOLOGY							
9 G 076	Endocrinology [143, 5, 349, 428]	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	B	B	24	Lectures and panels	2/56	C; 12 wk.	Varies
		11. FORENSIC MEDICINE							
11 G 520	531-A Forensic Medicine (Graduate Course) [16, 5, 329, 143]	New York University Post-Graduate Medical School 550 First Ave., New York	B	B	1200	Laboratory work Small group discussion	9/26/55	C; 9 mo.	815

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13. GASTROENTEROLOGY								
13 G 751	Gastroenterology [18, 16, 329, 5, 143]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
13 G 068	844: Gastroenterology [122, 357, 182, 143, 9]	Los Angeles County Hospital 1200 N. State St., Los Angeles 33	B & C	B	1064	Laboratory work Clinical case work	9/55	C; 12 mo.	1000
13 G 067	851: Gastrointestinal Endoscopy [197, 357, 5, 182]	Los Angeles County Hospital 1200 N. State St., Los Angeles 33	B & C	B	832	Laboratory work Clinical case work	Arranged	C; 6 mo.	500
14. GENERAL MEDICINE									
14 G 078	Applied Medical Science [143, 5, 349, 16, 430, 431]	Fitzsimons General Hospital Denver	B	S	56	Small group discussion Lectures and panels	9/ 5/55	C; 25 wk.	Varies
14 G 075	Gastrointestinal Physiology, Disease [143, 5, 349, 425]	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	B	S	28	Lectures and panels	3/56	C; 14 wk.	Varies
14 G 274	General Medicine [143, 329, 52]	The Department of Postgraduate Medicine, University of Michigan Medical School University Hospital, Ann Arbor, Mich.	B	B	850	Laboratory work Clinical case work	10/ 3/55	C; 9 mo.	500
14 G 748	Basic Medical Sciences [205, 16, 329, 5]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B	B	1280	Laboratory work Small group discussion	9/26/55	C; 8 mo.	1000
14 G 911	Postgraduate Course in Medicine [5, 435, 58]	Montreal General Hospital and Royal Victoria Hospital 687 Pine Ave., West, Montreal, Canada	B & C	S	180	Clinical case work Small group discussion	7/ 1/56	I; 5 hr. daily, 6 days wk. for 6 wk.	225
14 G 900	Master of Science in Medicine [16, 423, 349]	Queen's University, Faculty of Medicine Kingston, Ontario, Canada	B	B	1 yr.	Laboratory work Lectures and panels	9/12/56	C; 10 mo.	200
14 G 406	Bachelor of Science (Medicine) [102, 16, 377, 391]	University of Toronto Toronto, Canada	B	B	Specially arranged	Laboratory work Small group discussion	7/ 1/56	Specially arranged	205
14 G 904	Advanced Graduate Course in Medicine [349, 34]	Faculty of Medicine, University of Toronto Toronto, Canada	B & C	B	240	Small group discussion Lecture and panel	8/22/56	C; 6 wk.	200
16. GYNECOLOGY									
16 G 939	Postgraduate Anatomy, Obstetrics and Gynecology [414, 415]	University of Alabama Medical Center 1919 Seventh Ave., South, Birmingham 3, Ala.	B	S	128	Laboratory work Small group discussion	9/20/55	Specially arranged for 36 wk.	Unknown
16 G 474	Basic Science in Obstetrics and Gynecology [143, 425, 349, 16]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York 29	B & C	B	8 mo.	Clinical case work Small group discussion	10/10/55	C; 8 mo.	710
16 G 752	Gynecology-Obstetrics [370, 16, 329, 5, 143]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
16 G 912	Post-Graduate Course in Obstetrics and Gynecology [5, 436, 160]	Royal Victoria, Montreal Maternity Hospital 687 Pine Ave., West., Montreal 2, Canada	B & C	S	180	Small group discussion Lectures and panels	8/15/56	I; 5 hr. daily, 6 days wk. for 6 wk.	225
16 G 904	Advanced Graduate Course in Gynecology [349, 34]	Faculty of Medicine, University of Toronto Toronto, Canada	B & C	B	240	Small group discussion Lecture and panel	8/22/56	C; 6 wk.	200
18. INDUSTRIAL MEDICINE									
18 G 250	Industrial Health [16, 102, 349]	Harvard University School of Public Health 55 Shattuck St., Boston	B	B	2 mo.	Lectures and panels Demonstrations	2/ 6/56	C; 2 mo.	300
18 G 935	Industrial Medicine [336, 337, 338, 19, 143]	University of Rochester School of Medicine and Dentistry 260 Crittenden Blvd., Rochester 20, N. Y.	B & C	B	60	Laboratory work Small group discussion	9/19/55	C; 16 mo.	Unknown
18 G 519	481-A Industrial Medicine (Graduate Course) [160, 16, 5, 143]	New York University Post-Graduate Medical School 550 First Ave., New York	C	B	960	Laboratory work Clinical case work	9/26/55	C; 12 mo.	815
18 G 658	Industrial Medicine [143, 5, 338, 19, 106]	Institute of Industrial Health, College of Medicine, University of Cincinnati Cincinnati	B & C	B	1600	Laboratory work Clinical case work	7/ 5/56	C; 12 mo.	400
18 G 659	Industrial Medicine [143, 334, 335, 19, 106]	Institute of Industrial Health, College of Medicine, University of Cincinnati Cincinnati	B & C	B	2880	Laboratory work Clinical case work	7/ 5/56	C; 36 mo.	Fellowship stipend
18 G 789	Occupational Health [143, 243, 320, 16, 244]	Graduate School of Public Health, University of Pittsburgh Pittsburgh 13	B & C	B	3 yr.	Laboratory work Clinical case work	9/20/55	C; 34 mo.	700 per yr.

References will be found on pages 1129-1131.

Graduate Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		18. INDUSTRIAL MEDICINE—Continued							
18 G 790	Occupational Health [143, 341, 329, 16, 183]	Graduate School of Public Health, University of Pittsburgh Pittsburgh 13	B	B	10 mo.	Laboratory work Small group discussion	9/20/55	C; 10 mo.	700
18 G 468	Industrial Hygiene [440, 441, 16, 426]	University of Toronto Toronto 5, Canada	B & C	B	960	Laboratory work Small group discussion	9/19/55	C; 32 wk.	425
		20. INTERNAL MEDICINE							
20 G 070	830: Internal Medicine [216, 16, 357, 5, 143, 182]	Los Angeles County Hospital 1200 N. State St., Los Angeles 33	B & C	B	1664	Clinical case work Small group discussion	9/55	C; 12 mo.	1000
20 G 077	Radiology Physics and Medical Use of Isotopes [143, 5, 349, 16, 429]	University of Colorado, School of Medicine 4200 E. Ninth Ave., Denver 20	B	S	56	Laboratory work Small group discussion	9/55	C; 28 wk.	Varies
20 G 080	Fluid and Electrolyte Balance [143, 5, 349, 428]	University of Colorado, School of Medicine 4200 E. Ninth Ave., Denver 20	B	B	32	Lectures and panel	9/55	C; 16 wk.	79
20 G 229	Internal Medicine I [310, 143, 5, 331, 16, 332]	Boston City Hospital 818 Harrison Ave., Boston	B & C	B	Unknown	Laboratory work Clinical case work	9/ 1/55	Specially arranged for 12 mo.	800
20 G 803	5429-A Internal Medicine (Graduate Course) [143, 5, 329, 16, 34]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1100	Clinical case work Small group discussion	9/26/55	C; 12 mo.	815
20 G 471	Basic Science in Internal Medicine [143, 423, 349, 16]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York 29	B & C	B	8 mo.	Laboratory work Clinical case work	10/10/55	C; 8 mo.	710
20 G 521	5429-A Internal Medicine (Graduate Course) [143, 5, 329, 16, 34]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1100	Clinical case work Small group discussion	7/ 1/56	C; 12 mo.	815
20 G 753	Internal Medicine [369, 329, 5, 143, 16]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
		21. MALIGNANT DISEASE							
21 G 001	Newer Developments in Cancer Diagnosis and Treatment [5, 226]	City of Hope Medical Center Duarte, Calif.	C	B	35	Small group discussion Lectures and panels	10/24/55	C; 1 wk.	75
		23. NEUROLOGY							
23 G 527	645-A Neurology (Graduate Course) [143, 5, 329, 16]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1820	Laboratory work Clinical case work	9/12/55	C; 9 mo.	800
23 G 662	645-A Neurology (Graduate Course) [143, 5, 329, 16]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1820	Laboratory work Clinical case work	7/ 1/56	C; 9 mo.	800
23 G 456	Neurology PM 62—Review of Neurology [372]	Montefiore Hospital East Gun Hill Road, New York 67	B & C	B	72	Clinical case work Small group discussion	9/14/55	I; 3 hr. twice weekly for 13 wk. Tuesdays and Wednesdays	150
23 G 739	Neurology-Psychiatry [368, 329, 5, 143, 16]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
		26. OBSTETRICS							
26 G 939	Postgraduate Anatomy, Obstetrics and Gynecology [414, 415]	University of Alabama Medical Center 1919 Seventh Ave., South, Birmingham 3, Ala.	B	S	128	Laboratory work Small group discussion	9/20/55	Specially arranged for 36 wk.	Unknown
26 G 474	Basic Science in Obstetrics and Gynecology [143, 423, 349, 16]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York 29	B & C	B	8 mo.	Clinical case work Small group discussion	10/10/55	C; 8 mo.	710
26 G 752	Gynecology-Obstetrics [370, 16, 329, 5, 143]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
26 G 912	Post-Graduate Course in Obstetrics and Gynecology [5, 426, 166]	Royal Victoria, Montreal Maternity Hospital 687 Pine Ave., West, Montreal 2, Canada	B & C	S	180	Small group discussion Lectures and panels	8/15/56	I; 5 hr. daily, 6 days wk. for 6 wk.	225
26 G 904	Advanced Graduate Course in Obstetrics [349, 34]	Faculty of Medicine, University of Toronto Toronto, Canada	B & C	B	240	Small group discussion Lecture and panel	8/22/56	C; 6 wk.	200

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27. OPHTHALMOLOGY									
27 G 164	Postgraduate Course in Ophthalmology 148, 5, 329, 16, 127	Illinois Eye and Ear Infirmary of the University of Illinois College of Medicine 904 W. Adams St., Chicago 7	B & C	B	720	Laboratory work Clinical case work	7/ 5/56	C; 6 mo.	500
27 G 199	Basic Science in Ophthalmology 148, 5, 349, 16, 58	Tulane University School of Medicine 1430 Tulane Ave., New Orleans	B & C	B	1950	Laboratory work Clinical case work	7/ 9/56	C; 12 mo.	500
27 G 200	Lancaster Courses in Basic Ophthalmology 359, 124, 148, 5, 16	Colby College Waterville, Maine	B	B	425	Laboratory work Small group discussion	6/25/55	C; 11 wk.	325
27 G 220	Anatomy of Head and Neck as They Apply to Eye, Ear, Nose, Throat 5, 21, 148	University of Maryland School of Medicine 29 S. Greene St., Baltimore 1	B	B	150	Laboratory work Small group discussion	9/15/55	Specially arranged	160
27 G 233	Ophthalmology 310, 148, 5, 331, 149, 16, 389	Harvard Medical School Courses for Graduates 25 Shattuck St., Boston Massachusetts Eye and Ear Infirmary 243 Charles St., Boston	B & C	B	759	Laboratory work Clinical case work	9/26/55	C; 5 mo.	700
27 G 340	Ophthalmology 148, 5, 329, 126	Washington University School of Medicine 660 S. Kingshighway, St. Louis 10	B & C	B	1200	Laboratory work Clinical case work	9/19/55	C; 8 mo.	800
27 G 522	576-A Ophthalmology (Graduate Course) 287, 16, 329, 5, 148	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1125	Laboratory work Clinical case work	9/26/55	C; 9 mo.	815
27 G 917	Combined Eye, Ear, Nose and Throat Course 329, 148	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	B & C	B	2160	Laboratory work Clinical case work	10/ 3/55	C; full time for 9 mo.	1000
27 G 918	Combined Eye, Ear, Nose and Throat Course 329, 148	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	B & C	B	2160	Laboratory work Clinical case work	4/ 2/56	C; full time for 9 mo.	2160
27 G 740	Ophthalmology 307, 16, 329, 5, 148	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
27 G 934	Home Study Course in Ophthalmology 438	Home study by correspondence	B	S	Varies	Assigned reading	9/ 1/55	Specially arranged	20
28. ORTHOPEDICS									
28 G 938	Postgraduate Anatomy (Anatomy of the Back and Extremities) 148, 415, 414	University of Alabama Medical Center 1919 Seventh Ave., South, Birmingham 3, Ala.	B	S	160	Laboratory work Small group discussion	9/20/55	Specially arranged	Unknown
28 G 679	Orthopedic Pathology 148, 5, 349, 16, 302, 431	Combined course given at School of Medicine, Childrens Hospital, Denver General Hospital 4200 E. Ninth Ave., Denver 20	B	S	96	Laboratory work Small group discussion	9/55	C; 48 wk.	119
28 G 148	Orthopedic Basic Science 148, 5, 16, 64	Northwestern University Medical School 303 E. Chicago Ave., Chicago 11	B	S	960	Laboratory work Small group discussion	7/ 1/56	C; 6 mo.	600
28 G 201	Basic Science in Orthopedics 148, 5, 349, 16, 160	Tulane University School of Medicine 1430 Tulane Ave., New Orleans	B	B	850	Laboratory work Operative surgery	2/ 6/56	C; 5 mo.	300
28 G 200	Basic Science in Orthopedics 148, 5, 349, 16, 160	Tulane University School of Medicine 1430 Tulane Ave., New Orleans	B	B	850	Laboratory work Operative surgery	9/ 7/55	C; 5 mo.	300
28 G 523	581-A Basic Sciences as Related to Orthopedic Surgery 120, 16, 329, 148	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	S	800	Laboratory work Clinical case work	1/ 3/56	C; 6 mo.	515
28 G 741	Orthopedic Surgery 306, 16, 329, 5, 148	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
29. OTOLARYNGOLOGY									
29 G 941	Postgraduate Anatomy (Anatomy of Head and Neck) 148, 414, 415	University of Alabama Medical Center 1919 Seventh Ave., South, Birmingham 3, Ala.	B	S	160	Laboratory work Small group discussion	9/20/55	Specially arranged	Unknown
29 G 162	Basic Science of Otolaryngology 148, 5, 329, 127	University of Illinois College of Medicine 1853 W. Polk St., Chicago 12	B	B	1584	Laboratory work Clinical case work	10/ 3/55	C; 9 mo.	750
29 G 167	Clinical and Anatomical Course in Otolaryngology 416, 425	Indiana University School of Medicine 1100 W. Michigan St., Indianapolis	B	S	150	Laboratory work Lecture and panels	3/19/56	C; 2 wk.	250
29 G 234	Otolaryngology 310, 148, 5, 331, 16, 390	Harvard Medical School Courses for Graduates 25 Shattuck St., Boston Massachusetts Eye and Ear Infirmary 243 Charles St., Boston	B & C	B	693	Laboratory work Clinical case work	10/31/55	C; 5 mo.	925

References will be found on pages 1129-1131.

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		29. OTOLARYNGOLOGY—Continued							
29 G 524	563-A Basic Sciences of Otorhinolaryngology (Graduate Course) 147, 16, 329, 5, 143	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	S	1200	Laboratory work Clinical case work	9/26/55	C; 9 mo.	815
29 G 917	Combined Eye, Ear, Nose and Throat Course 329, 143	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	B & C	B	2160	Laboratory work Clinical case work	10/ 3/55	C; full time for 9 mo.	1000
29 G 918	Combined Eye, Ear, Nose and Throat Course 329, 143	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	B & C	B	2160	Laboratory work Clinical case work	4/ 2/56	C; full time for 9 mo.	2160
29 G 742	Otolaryngology 365, 16, 5, 143, 329	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
29 G 933	Home Study Course in Otolaryngology 438	At home by correspondence	B	S	Varies	Assigned reading	9/ 1/55	Specially arranged	20
		30. PATHOLOGY							
30 G 122	Gross and Microscopic Pathology 143, 5, 329, 205	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	C	B	1500	Laboratory work Clinical case work	By appointment	C; 12 mo.	500
30 G 121	Gross and Surgical Pathology 143, 5, 329, 205	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	C	B	1250	Laboratory work Clinical case work	By appointment	C; 6 mo.	500
30 G 123	Gross and Surgical Pathology 143, 5, 329, 205	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	C	B	1600	Laboratory work Clinical case work	By appointment	C; 12 mo.	900
30 G 219	Neuropathology 29, 142, 13, 143, 5	University of Maryland School of Medicine Gray Laboratory Bldg., Baltimore 1	B & C	S	900	Laboratory work Clinical case work	Unknown	C; 6 mo.	210
30 G 406	Pathology GM 1—Surgical Pathology 320	Columbia-Presbyterian Medical Center 630 W. 168th St., New York	B	S	Arranged	Laboratory work Small group discussion	Arranged	Specially arranged for 6 or 12 mo.	300
30 G 859	Review for Specialty Boards 349	University of Washington School of Medicine Health Sciences Building, Seattle	B	B	Arranged	Laboratory work	Arranged	Specially arranged	Unknown
		31. PEDIATRICS							
31 G 117	Course IV Pediatrics 95, 5, 143, 329	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	C	B	1500	Laboratory work Clinical case work	7/ 1/56	C; 12 mo.	750
31 G 822	6110-A Pediatrics (Graduate Course) 143, 5, 329, 135	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1260	Laboratory work Clinical case work	9/19/55	C; 9 mo.	815
31 G 473	Basic Science in Pediatrics 143, 422, 349, 16	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York 29	B & C	B	8 mo.	Clinical case work Small group discussion	10/10/55	C; 8 mo.	710
31 G 525	6110-A Pediatrics (Graduate Course) 143, 5, 329, 16, 135	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1260	Laboratory work Clinical case work	7/ 1/56	C; 9 mo.	815
31 G 743	Pediatrics 143, 5, 329, 19	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
		34. PUBLIC HEALTH							
34 G 402	Public Health 16, 421	School of Public Health, University of California Berkeley 4, Calif.	B & C	B	9 mo.	Laboratory work Clinical case work	9/13/55	C; 9 mo.	Unknown
34 G 204	Public Health 143, 341, 16, 51	Tulane University School of Medicine 1430 Tulane Ave., New Orleans	B	B	8½ mo.	Laboratory work Small group discussion	9/14/55	C; 8½ mo.	700
34 G 206	Public Health 143, 420, 421, 16	Tulane University School of Medicine 1430 Tulane Ave., New Orleans	B	S	8½ mo.	Laboratory work Small group discussion	9/14/55	C; 8½ mo.	700
34 G 209	Public Health 143, 341, 447, 16, 448	The Johns Hopkins University School of Hygiene and Public Health 615 N. Wolfe St., Baltimore 5	B & C	B	1056	Laboratory work Clinical case work	9/29/55	C; 8 to 11 mo.	1200
34 G 210	Public Health 420, 449, 160	The Johns Hopkins University School of Hygiene and Public Health 615 N. Wolfe St., Baltimore 5	B & C	S	8 mo.	Independent investigation and thesis	9/29/55	C; 8 mo.	1200

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34 G 249	Public Health [143, 341, 16, 413, 349]	Harvard University School of Public Health 55 Shattuck St., Boston	B	B	9 mo.	Laboratory work Small group discussion	9/26/55	C; 9 mo.	1,150
34 G 320	Public Health [143, 341, 437, 20]	University of Minnesota School of Public Health Minneapolis 14	B & C	B	9 mo.	Small group discussion Lectures and panels	9/26/55	C; 9 mo.	380
34 G 427	Public Health [143, 341, 424, 16, 407]	Columbia University School of Public Health and Administrative Medicine 600 W. 168th St., New York 32	B	B	8 mo.	Laboratory work Clinical case work	9/29/55	C; 8 mo.	835
34 G 470	Public Health [143, 385, 441, 426]	University of Toronto Toronto 5, Canada	B & C	B	960	Laboratory work Small group discussion	9/19/55	C; 32 wk.	425
		35. PHYSICAL MEDICINE AND REHABILITATION							
35 G 065	879: Advanced Clinical Practice in Physical Medicine [5, 257, 182]	Los Angeles County Hospital 1200 N. State St., Los Angeles 33	B & C	B	1664	Clinical case work Small group discussion	9/55	C: 12 mo.	1000
35 G 064	880: Electrodiagnosis and Electromyography [5, 257, 182]	Los Angeles County Hospital 1200 N. State St., Los Angeles 33	B & C	B	128	Laboratory work Clinical case work	Arranged	C: 1 mo.	100
35 G 526	Physical Medicine and Rehabilitation (Graduate Course) [355, 329, 5, 143]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1260	Clinical case work Small group discussion	9/26/55	C; 9 mo.	815
35 G 411	Physical Medicine and Rehabilitation GM-I [143, 16]	Columbia Presbyterian Medical Center 630 W. 168th St., New York	C	S	Arranged	Clinical case work	Arranged	Specially arranged	600 for 6 mo.
35 G 744	Physical Medicine and Rehabilitation [364, 16, 329, 5, 143]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
		39. PSYCHIATRY							
39 G 366	649-A Psychiatry (Graduate Course) [143, 5, 329, 16]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1820	Laboratory work Clinical case work	9/12/55	C: 9 mo.	800
39 G 633	Graduate Course in Psychoanalytic Medicine [321, 57, 5, 143, 323]	Kings County Hospital 451 Clarkson Ave., Brooklyn 3, N. Y.	C	S	4120	Clinical case work Small group discussion	9/12/55	C; 3 yr. (specially arranged 4th yr.)	757 per yr.
39 G 950	Graduate Course in Psychoanalysis [16, 5, 235]	State University College of Medicine at New York City 600 Winthrop St., Brooklyn 3, N. Y.	B & C	S	4 yr.	Clinical case work Small group discussion	9/20/55	C: 48 mo.	Unknown
39 G 507	Introduction to Psychotherapy and Psychotherapeutic Techniques [432]	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	C	S	22½	Lecture and panels	10/12/55	I; 1½ hr. weekly for 15 wk. Wednesdays	40
39 G 509	Clinical Conferences [432]	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	C	S	15	Small group discussion	10/12/55	I; 1½ hr. weekly for 10 wk. Wednesdays	30
39 G 506	Techniques of Dream Interpretation [432, 148]	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	C	S	15	Small group discussion Lecture and panel	10/13/55	I; 1½ hr. weekly for 10 wk. Thursdays	30
39 G 508	Basic Psychiatry and Neurology [432]	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	C	S	22½	Lectures and panels	10/13/55	I; 1½ hr. weekly for 15 wk. Thursdays	40
39 G 570	Seminar on Group Psychotherapy [432, 278]	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	C	S	22½	Small group discussion	10/13/55	I; 1½ hr. weekly for 15 wk.	40
39 G 573	Clinical Conferences on Treatment Planning [432]	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	C	S	22½	Small group discussion	2/14/56	I; 1½ hr. weekly for 15 wk. Tuesdays	40
39 G 571	Continuous Case Seminar [432]	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	C	S	22½	Small group discussion	2/16/56	I; 1½ hr. weekly for 15 wk. Thursdays	40
39 G 574	Handling of Special Problems [432]	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	C	S	7½	Lecture and panels	2/16/56	I; 1½ hr. weekly for 5 wk. Thursdays	15
39 G 572	Clinical Conferences—Character Disorders [432]	Postgraduate Center for Psychotherapy 218 E. 70th St., New York	C	S	15	Small group discussion	3/22/56	I; 1½ hr. weekly for 10 wk. Thursdays	30
39 G 528	649-A Psychiatry (Graduate Course) [143, 5, 329, 16]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1820	Laboratory work Clinical case work	7/ 1/56	C: 9 mo.	800
39 G 635	Graduate Course in Psychiatry [321, 5, 143, 324]	Kings County Hospital 451 Clarkson Ave., Brooklyn 3, N. Y.	C	B	6000	Laboratory work Clinical case work	7/ 1/56	C: 49 wk.	500 per yr.
39 G 961	Graduate Residency Training in Psychoanalytic Medicine [445, 16, 5, 143, 380]	Psychoanalytic Clinic for Training and Research Department of Psychiatry, College of Physicians and Surgeons, Columbia University 722 W. 168th St., New York 32	B & C	B	650	Clinical case work Small group discussion	7/ 1/56	C; 3 yr.	825 per yr.
39 G 905	Diploma in Psychiatry [143, 446, 458]	University of Toronto Toronto 5, Canada	B & C	B	24 mo.	Clinical case work Small group discussion	7/ 1/56	C; 24 mo.	65 yr.

References will be found on pages 1129-1131.

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Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		40. PSYCHOANALYSIS							
40 G 268	Psychoanalytic Training [5, 339, 340]	Institute for Psychoanalytic Medicine of Southern California 416 N. Bedford Drive, Beverly Hills, Calif.	C	S	450	Clinical case work Small group discussion	9/ 6/55	C; 9 mo.	Unknown
40 G 951	Psychoanalysis [879]	San Francisco Psychoanalytic Institute 2295 Post St., San Francisco	C	B	336	Clinical case work	9/15/55	I; 2 hr. 4 times a wk. for 42 wk. Mondays, Tuesdays, Wednesdays, Thursdays	150 per semester
40 G 040	Psychoanalysis [873, 16, 874, 875]	Los Angeles Institute for Psychoanalysis 344 N. Bedford Drive, Beverly Hills, Calif.	C	Applicants selected	Undetermined	Clinical case work Small group discussion	9/55	Specially arranged	Unknown
40 G 899	103-W The Interpretation of Dreams: A Seminar [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	30	Lectures and panels	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 957	101-W The Basic Concepts of Psychoanalysis [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	30	Lectures and panels	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 958	102-W The Basic Literature of Psychoanalysis: A Seminar [143, 349]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	30	Small group discussion	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 985	202-W The Literature of Psychoanalysis [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	30	Small group discussion	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 986	203-W Scientific Method [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	6	Lectures and panels	10/55	I; 2 hr. every 2 wk. for 1 mo.	12
40 G 988	205-W Introduction to the Technique of Psychoanalysis [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	20	Lectures and panels	10/55	I; 2 hr. every 2 wk. for 7 mo.	40
40 G 984	201-W Pathological Formations [143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	30	Lectures and panels	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 989	206-W The Continuous Case Seminar [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B & C	S	30	Small group discussion	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 990	207-W Clinical Conference [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B & C	S	30	Small group discussion	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 991	301-W The Technique of Psychoanalysis [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	30	Lectures and panels	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 992	302-W The Current Literature of Psychoanalysis [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	30	Lectures and panels	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 993	303-W Seminar on Dreams [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B & C	S	30	Small group discussion	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 995	306-W The Continuous Case Seminar [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B & C	S	30	Small group discussion	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 996	307-W Clinical Conference [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B & C	S	30	Small group discussion	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 999	407-W Clinical Conference [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B & C	S	30	Small group discussion	10/55	I; 2 hr. every 2 wk. for 8 mo.	60
40 G 987	204-W The Theory and Technique of Dream Interpretation [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	24	Lectures and panels	11/55	I; 2 hr. every 2 wk. for 7 mo.	48
40 G 997	309-W Child Analysis [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B	S	16	Lectures and panels	11/55	I; 2 hr. every 2 wk. for 6 mo.	32
40 G 998	406-W The Continuous Case Seminar [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C.	B & C	S	30	Small group discussion	11/55	I; 2 hr. every 2 wk. for 8 mo.	60

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40 G 994	305-W Applied Psychoanalysis [349, 143]	The Washington Psychoanalytic Institute 1720 M St., N. W., Washington, D. C	B	S	20	Lectures and panels	11/55	I; 2 hr. every 2 wk. for 7 mo.	40
40 G 140	Theory and Practice of Psychoanalysis [376, 5, 143, 345, 16]	Chicago Institute for Psychoanalysis 664 N. Michigan Ave., Chicago 11	B & C	S	1216	Clinical case work Small group discussion	9/30/55	I; 1 hr. 6 days a wk. for 240 wk.	3050
40 G 947	Graduated series of lectures and seminars covering theory and technique of psychoanalysis [350, 385, 16]	New Orleans Psychoanalytic Training Center 3706 Prytania St., New Orleans 15	C	S	5 yr.	Clinical case work Small group discussion	9/55	Specially arranged for 5 yr.	600 per yr.
40 G 369	The Psychoanalytic Relationship [404, 5, 16, 405, 58]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	22½	Clinical case work Lectures and panels	9/12/55	I; 1½ hr. weekly for 15 wk. Mondays	60
40 G 375	Readings in Psychoanalysis Part II, The Works of Freud [404, 5, 405, 16, 31]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	30	Lectures and panels	9/12/55	I; 1½ hr. weekly for 20 wk. Mondays	60
40 G 500	Psychoanalysis [5, 351, 378]	The New York Psychoanalytic Institute 247 E. 82nd St., New York 28	C	S	5 yr. minimum	Clinical case work Small group discussion	9/12/55	I; 1½ hr. 4 days a wk. for 36 wk.	625 annually
40 G 364	Continuous Case Seminar [406, 5, 16, 404, 405]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	15	Clinical case work	9/13/55	I; 1½ hr. weekly for 10 wk. Tuesdays	40
40 G 373	Readings in Psychoanalysis Part I, The Works of Karen Horney [404, 5, 405, 16, 31]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	37½	Lectures and panels	9/13/55	I; 1½ hr. weekly for 25 wk. Tuesdays	75
40 G 362	Clinical Conferences [5, 406, 16, 405, 404]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	15	Clinical case work	9/23/55	I; 1½ hr. weekly for 10 wk. Fridays	40
40 G 363	Clinical Conferences [406, 5, 16, 404, 405]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	15	Clinical case work	9/23/55	I; 1½ hr. weekly for 10 wk. Fridays	40
40 G 372	Clinical Conferences on Case Histories [404, 5, 405, 16, 64]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	15	Clinical case work	9/23/55	I; 1½ hr. weekly for 10 wk. Fridays	40
40 G 367	Group Psychodynamics and Group Psychoanalysis [309, 404, 5, 405, 16, 358]	New School for Social Research 66 W. 12th St., New York	C	S	22½	Lectures and panels	9/27/55	I; 1½ hr. weekly for 15 wk. Tuesdays	24
40 G 366	Workshop on Dynamics of Behavior [309, 153, 405, 404, 5, 16]	New School for Social Research 66 W. 12th St., New York	C	S	22½	Clinical case work Lectures and panels	10/ 3/55	I; 1½ hr. weekly for 15 wk. Mondays	35
40 G 614	Social Psychology A-2 [101]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	B	S	15	Lectures and panels	10/ 3/55	I; 1½ hr. weekly for 10 wk. Mondays	40
40 G 621	Modern Conceptions of Psychoanalysis B-1 [101]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	B	S	9	Lectures and panels	10/ 3/55	I; 1½ hr. every 2 wk. for 2 mo. Mondays	20
40 G 625	Comprehensive Course in Psychoanalysis for Psychiatrists [5, 351]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	B	S	599	Clinical case work Small group discussion	10/ 3/55	I; 2 hr. every wk. for 60 mo.	880 for 6 yr.
40 G 613	Basic Psychoanalytic Principles and Seminar in Basic Psychoanalytic Principles A-1 and AS-1 [352]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	B	S	22	Small group discussion Lectures and panels	10/ 4/55	I; 2 hr. weekly for 11 wk. Tuesdays	45
40 G 623	Introductory Seminar in Psychoanalysis BS-3 [95, 355]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	22	Clinical case work	10/ 5/55	I; 2 hr. weekly for 2 mo. Wednesdays	50
40 G 627	Case Seminar in Psychoanalysis BS-5 [95, 402]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	20	Clinical case work Small group discussion	10/ 6/55	I; 2 hr. weekly for 2 mo. Thursdays	50
40 G 618	Freud's Theory of Neurosis AS-6 [358, 16]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	B	S	16	Small group discussion	10/11/55	I; 2 hr. monthly for 8 mo. Tuesdays	35
40 G 632	Papers on Technique BS-9 [95, 16, 402]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	16	Clinical case work Small group discussion	10/24/55	I; 2 hr. monthly for 8 mo. Mondays	35
40 G 624	Clinical Conceptions of Mental Disorders B-15 [9]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	20	Clinical case work Small group discussion	1/ 9/56	I; 2 hr. every 2 wk. for 4 mo. Mondays	40

References will be found on pages 1129-1131.

Graduate Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		40. PSYCHOANALYSIS—Continued							
40 G 615	Evolution of Psychoanalytic Concepts and Seminar in Evolution of Psychoanalytic Concepts A-3 and AS-3 [352]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	B	S	22	Small group discussion Lectures and panels	1/11/56	I; 2 hr. every 2 wk. for 5 mo. Wednesdays	45
40 G 626	Seminar on Child Psychiatry BS-16 (Elective) [95, 401]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	22	Clinical case work Small group discussion	1/11/56	I; 2 hr. every 2 wk. for 5 mo. Wednesdays	50
40 G 617	Seminar in Literature of Psychoanalysis, Part 1 AS-5 [353, 354]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	B	S	22	Small group discussion	1/18/56	I; 2 hr. every 2 wk. for 5 mo. Wednesdays	45
40 G 619	Theory and Practice of Dream Interpretation AS-7 [353]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	20	Clinical case work Small group discussion	1/19/56	I; 2 hr. every 2 wk. for 5 mo. Thursdays	45
40 G 630	Case Seminar on Psychosomatic Problems BS-30 [95, 402]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	16	Clinical case work Small group discussion	1/23/56	I; 2 hr. every 2 wk. for 3 mo. Mondays	40
40 G 628	Continuous Case Seminar in Psychoanalysis BS-6 [95, 402]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	20	Clinical case work Small group discussion	1/26/56	I; 2 hr. every 2 wk. for 5 mo. Thursdays	50
40 G 371	Introduction to Psychoanalytic Technique [404, 5, 405, 16, 64]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	15	Lectures and panels	1/30/56	I; 1½ hr. weekly for 10 wk. Mondays	30
40 G 376	The Psychoanalytic Process [404, 5, 405, 16, 84]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	22½	Clinical case work Lectures and panels	1/30/56	I; 1½ hr. weekly for 15 wk. Mondays	60
40 G 631	Seminar on Crises in Psychotherapy BS-29 (Elective) [95, 402]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	20	Clinical case work Small group discussion	1/30/56	I; 2 hr. every 2 wk. for 5 mo.	50
40 G 365	Continuous Case Seminar [406, 5, 16, 404, 405]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	22½	Clinical case work	1/31/56	I; 1½ hr. weekly for 15 wk. Tuesdays	60
40 G 377	Postgraduate Course—Continuous Case Seminar for Certified Analysis [404, 412, 411]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	15	Clinical case work	1/31/56	I; 1½ hr. weekly for 10 wk. Tuesdays	40
40 G 374	Clinical Conferences on Case Histories [11, 64, 404, 5, 405, 16]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	15	Clinical case work	2/ 2/56	I; 1½ hr. weekly for 10 wk. Thursdays	30
40 G 616	Anthropology and the Comparative Study of Civilization A-4	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	B	S	15	Lectures and panels	2/ 3/56	I; 1½ hr. weekly for 5 mo. Fridays	30
40 G 629	Research Seminar in Hypnosis BS-19 (Elective) [95, 402]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	10½	Clinical case work Small group discussion	2/ 3/56	I; 1½ hr. every 2 wk. for 2 mo. Fridays	25
40 G 370	Introductory Course on Dreams [404, 5, 405, 16, 84]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	15	Lectures and panels	2/ 3/56	I; 1½ hr. weekly for 10 wk. Fridays	30
40 G 378	The Practice of Group Psychoanalysis [19, 5, 16, 404, 405]	American Institute for Psychoanalysis 220 W. 98th St., New York 25	C	S	15	Clinical case work Lectures and panels	2/ 3/56	I; 1½ hr. weekly for 10 wk. Fridays	30
40 G 368	Love, Sex, and Marriage (A Workshop) [309, 404, 5, 405, 16, 243]	New School for Social Research 66 W. 12th St., New York	C	S	22½	Clinical case work Lecture and panel	2/ 6/56	I; 1½ hr. weekly for 15 wk. Mondays	35
40 G 379	Neuroses and Psychoses [309, 401, 5, 405, 16, 243]	New School for Social Research 66 W. 12th St., New York	C	S	22½	Lectures and panels	2/ 7/56	I; 1½ hr. weekly for 15 wk. Tuesdays	24
40 G 622	Advanced Seminar on Theory of Dream Interpretation BS-8 [160, 403]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	C	S	14	Clinical case work Small group discussion	2/ 7/56	I; 2 hr. every 2 wk. for 3 mo. Tuesdays	35
40 G 620	Psychological Development of the Normal Child A-8 [76]	The William Alanson White Institute of Psychiatry, Psychoanalysis, and Psychology 12 E. 86th St., New York 28	B	S	9	Small group discussion Lectures and panels	4/23/56	I; 3 hr. twice weekly for 1 wk. Mondays and Thursdays	30
40 G 963	No. 1002 Theory of Instinct and Ego Development [345]	The Psychoanalytic Training Center School of Medicine, Western Reserve University 2039 Adelbert Rd., Cleveland	B & C	S	48	Small group discussions	10/55	I; 1½ hr. weekly for 8 mo. Thursdays	Unknown

40 G 964	No. 1001 Historical Development of Analytic Thought [345]	The Psychoanalytic Training Center School of Medicine, Western Reserve University 2039 Adelbert Rd., Cleveland	B & C	S	36	Small group discussion	10/55	I; 1½ hr. weekly for 8 mo. Saturdays	Unknown
40 G 970	No. 1003 Psychology of Dreams [345]	The Psychoanalytic Training Center School of Medicine, Western Reserve University 2039 Adelbert Rd., Cleveland	B & C	S	48	Small group discussion	10/55	I; 1½ hr. weekly for 8 mo. Tuesdays	Unknown
40 G 971	No. 3001 Continuous Case Seminar [346]	The Psychoanalytic Training Center School of Medicine, Western Reserve University 2039 Adelbert Rd., Cleveland	C	S	24	Clinical case work Small group discussion	10/55	I; 1½ hr. every 2 wk. for 8 mo. Tuesdays	Unknown
40 G 972	No. 3003 Case Conferences on the Analyses of Children [346]	The Psychoanalytic Training Center Western Reserve University School of Medicine, 2039 Adelbert Rd., Cleveland	C	S	48	Clinical case work Small group discussion	10/55	I; 1½ hr. weekly for 8 mo. Thursdays	Unknown
40 G 973	No. 3007 Seminars on Selected Topics [345]	The Psychoanalytic Training Center Western Reserve University School of Medicine, 2039 Adelbert Rd., Cleveland	B & C	S	16	Small group discussion	11/55	I; 4 hr. every 2 mo. for 7 mo. Saturdays	Unknown
40 G 799	Course I. For Psychiatrists Who Desire to Specialize in the Practice of Psychoanalysis (Professional School Course) [5, 450, 452]	Institute of the Philadelphia Association for Psychoanalysis 122 S. 18th St., Philadelphia	B & C	S	4 yr.	Clinical case work Small group discussion	9/55	I; 1½ hr. daily 6 days a wk. biweekly sessions for 11 mo.	400 yr.
40 G 800	Course III. For Psychoanalytic Students Who Desire to Specialize in the Practice of Psychoanalysis of Children [451, 453]	Institute of the Philadelphia Association for Psychoanalysis 122 S. 18th St., Philadelphia	B & C	S	4 yr.	Clinical case work Small group discussion	9/55	I; 1½ hr. daily 6 days a wk. at varying intervals for 11 mo.	1.50 hr.
		41. PSYCHOSOMATIC MEDICINE							
41 G 719	Psychosomatic Medicine [350]	Philadelphia Psychiatric Hospital Ford and Monument roads, Philadelphia 31	Unknown	B	8	Lectures and panels	10/55	I; 1 hr. monthly for 8 mo. Thursdays	Nil
		43. RADIOLOGY							
43 G 066	858: Diagnostic and Therapeutic Radiology [858, 143, 5, 357, 182]	Los Angeles County Hospital 1200 N. State St., Los Angeles 33	B & C	B	456 to 1664	Laboratory work Clinical case work	9/55	C; 3 to 12 mo.	250 for 3 mo.
42 G 149	Radiation Physics [143, 16, 409, 410]	Northwestern University Medical School 303 E. Chicago Ave., Chicago 11	B	B	32	Lectures and panels	1/56	I; 2 hr. weekly for 4 mo. Mondays	25
43 G 113	Diagnostic Roentgenology [143, 5, 329, 205]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	C	B	1600	Laboratory work Clinical case work	By appointment	C; 8 mo.	500
43 G 119	Diagnostic Roentgenology [143, 5, 329, 205]	Cook County Graduate School of Medicine 707 S. Wood St., Chicago 12	C	B	1500	Laboratory work Clinical case work	By appointment	C; 12 mo.	750
43 G 529	653-A Basic Sciences of Radiology (Graduate Course) [342, 16, 329, 5, 143]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1130	Laboratory work Clinical case work	9/26/55	C; 9 mo.	815
43 G 475	Basic Science in Radiology [143, 423, 349, 16]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York 29	B & C	B	8 mo.	Small group discussions Lectures and panels	10/10/55	C; 8 mo.	710
43 G 476	Basic Science in Surgery [143 423, 349, 16]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York 29	B & C	B	8 mo.	Laboratory work Clinical case work	10/10/55	C; 8 mo.	710
43 G 745	Radiology [863, 16, 5, 143, 329]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1280
43 G 467	Medical Radiology [143, 422, 439, 16, 344]	University of Toronto Toronto 5, Canada	B & C	B	630	Laboratory work Clinical case work	7/ 1/56	C; 24 mo.	250
43 G 901	Medical Radiology (Diagnosis-Therapy) [16, 329, 5]	Queen's University, Faculty of Medicine Kingston, Ontario, Canada	C	B	2 yr.	Laboratory work Clinical case work	9/12/56	C; 2 yr.	200
		44 SURGERY							
44 G 006	Basic Science Course in Surgery and Surgical Specialties [26, 5, 16, 143, 349]	College of Medical Evangelists 1720 Brooklyn Ave., Los Angeles 32	B	B	1220	Laboratory work Clinical case work	10/ 2/55	C; 9 mo.	800
44 G 073	Surgical Anatomy [143, 5, 349, 16, 427]	University of Colorado School of Medicine 4200 E. Ninth Ave., Denver 20	B	B	225	Laboratory work Small group discussion	3/15/56	C; 16 wk.	Varies
44 G 221	Surgical Anatomy [143, 5, 9]	University of Maryland School of Medicine 29 S. Greene St., Baltimore 1	B	S	90	Laboratory work Lectures and panels	1/24/56	I; 3 hr. twice weekly for 15 wk. Mondays, Wednesdays	150

References will be found on pages 1129-1131.

Graduate Courses for Physicians—Sept. 1, 1955, to Aug. 31, 1956—Continued

Course Code No.	Title of Course	Location of Course	Type	Designed For	Total Hours	Methods of Instruction	Starting Date	Time Arrangements	Fee in Dollars
		44. SURGERY—Continued							
44 G 222	General Anatomy [41, 5, 13]	University of Maryland School of Medicine 29 S. Greene St., Baltimore 1	B	B	Variable	Laboratory work Small group discussion	Unknown	Specially arranged	Variable
44 G 530	665-A Surgery (Graduate Course) [347, 16, 329, 5, 143]	New York University Post-Graduate Medical School 550 First Ave., New York	B & C	B	1200	Laboratory work Clinical case work	9/26/55	C; 9 mo.	815
44 G 431	Surgical Anatomy [51, 5, 143, 360]	Cornell University Medical College 1300 York Ave., New York 21	B & C	S	160	Lectures, demonstrations, and dissections	5/30/56	C; 4 wk.	200
44 G 409	Surgery GM 2—Principles of Cardiovascular Surgery [15]	Columbia-Presbyterian Medical Center 630 W. 168th St., New York	B	S	Arranged	Laboratory work Small group discussion	Arranged	Specially arranged for 6 mo.	600
44 G 410	Surgery GM 2A—Studies in Cardiovascular Surgery [143, 5]	Columbia-Presbyterian Medical Center 630 W. 168th St., New York	B & C	S	Arranged	Laboratory work Small group discussion	Arranged	Specially arranged	600 for 6 mo.
44 G 746	Surgery [362, 16, 329, 5, 143]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
44 G 804	Master of Medical Science [143, 423, 349]	University of South Dakota School of Medical Sciences Medicine and Science Building, Vermillion, S. D.	B	B	400-600	Laboratory work Small group discussion	9/ 1/55	C; 9 mo.	100
44 G 808	Master of Medical Science [143, 423, 349]	University of South Dakota School of Medical Sciences Medicine and Science Building, Vermillion, S. D.	B	B	400-600	Laboratory work Small group discussion	2/ 1/56	C; 9 mo.	100
44 G 909	Postgraduate Course in Surgery [5, 434, 432]	Royal Victoria Hospital 687 Pine Ave., West, Montreal, Canada	B & C	S	180	Operative surgery Small group discussion	8/55	I; 5 hr. daily 6 days wk. for 6 wk.	225
44 G 888	Surgical Anatomy (503) [57, 5, 323]	University of British Columbia Vancouver 8, British Columbia, Canada	B	B	90	Laboratory work Lecture and panels	10/ 3/55	I; 3 hr. weekly for 30 wk. Mondays	10
44 G 891	Surgical Anatomy [5, 335, 28]	Faculty of Medicine, Laval University 6 University St., Quebec, Canada	C	S	80	Laboratory work Operative surgery	11/ 1/55	I; 3 hr. weekly for 6 mo. Thursdays	150
44 G 469	Course leading to the Degree of Master of Surgery [143, 442, 443, 444]	University of Toronto Toronto 5, Canada	B & C	B	12 mo.	Laboratory work Clinical case work	7/ 1/56	C; 12 mo.	120
44 G 904	Advanced Graduate Course in Surgery [349, 34]	Faculty of Medicine, University of Toronto Toronto, Canada	B & C	B	240	Small group discussion Lecture or panel	8/22/56	C; 6 wk.	200
		47. TROPICAL MEDICINE							
47 G 205	Public Health (Tropical Medicine) [143, 241, 16, 51]	Tulane University, School of Medicine 1430 Tulane Ave., New Orleans	B & C	B	8½ mo.	Laboratory work Clinical case work	9/14/55	C; 8½ mo.	700
		48. UROLOGY							
48 G 940	Anatomy of Male Pelvis and Abdomen [143, 415, 414]	University of Alabama Medical Center 1919 Seventh Ave., South, Birmingham 3, Ala.	B	S	128	Laboratory work Small group discussion	9/20/55	Specially arranged	Unknown
48 G 913	Urology—Basic Sciences [329, 143]	New York Polyclinic Medical School and Hospital 345 W. 50th St., New York 19	B & C	B	1920	Laboratory work Clinical case work	10/ 3/55	C; full time for 8 mo.	800
48 G 477	Basic Science in Urology [143, 423, 349, 16]	New York Medical College, Flower and Fifth Avenue Hospitals 1 E. 105th St., New York	B & C	B	8 mo.	Laboratory work Clinical case work	10/10/55	C; 8 mo.	710
48 G 919	Urology—Basic Sciences [329, 143]	New York Polyclinic, Medical School and Hospital 345 W. 50th St., New York 19	B & C	B	1920	Laboratory work Clinical case work	4/ 2/56	C; 8 mo.	800
48 G 747	Urology [361, 16, 5, 143, 329]	Graduate School of Medicine, University of Pennsylvania Philadelphia	B & C	B	1280	Laboratory work Clinical case work	9/26/55	C; 8 mo.	1000
		49. OTHER							
49 G 211	Master of Science in Hygiene [127, 16, 396, 428]	The Johns Hopkins University School of Hygiene and Public Health 615 N. Wolfe St., Baltimore 5	B	B	2 yr.	Laboratory work Small group discussion	9/29/55	C; 16 mo.	1200 per yr.
49 G 212	Doctor of Science in Hygiene [181, 397, 398]	The John Hopkins University School of Hygiene and Public Health 615 N. Wolfe St., Baltimore 5	B	B	3 yr.	Laboratory work Small group discussion	9/29/55	C; 2 yr.	1200 per yr.

References will be found on pages 1129-1131.

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REFERENCES

Addresses for Inquiries

2. American Academy of Allergy, 208 E. Wisconsin Ave., Milwaukee.

3. Hansel Foundation, 634 N. Grand Blvd., St. Louis.

7. Joint Committee on Postgraduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y.

10. American College of Allergists, 401 LaSalle Medical Bldg., Minneapolis 2.

12. U. S. Veterans Hospital, University Drive, Pittsburgh.

14. College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles.

22. New York State Society of Anesthesiologists, 137 W. 11th St., New York 11.

29. Committee on Postgraduate Courses, University of Maryland School of Medicine, 29 S. Greene St., Baltimore.

35. San Francisco Heart Association, Inc., 604 Mission St., San Francisco 5.

38. Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver 20.

43. University of Kansas Medical Center, 39th and Rainbow Blvd., Kansas City 12.

44. Dr. Joseph E. F. Riseman, 29 Commonwealth Ave., Boston.

55. Dr. Henry H. Turner, The Endocrine Society, 1200 N. Walker St., Oklahoma City.

56. American Fracture Association, 610 Griesheim Bldg., Bloomington, Ill.

60. Alabama Academy of General Practice, 17 Moulton St., Montgomery, Ala.

63. Los Angeles County Heart Association, 316 S. Bonnie Brae St., Los Angeles.

70. Postgraduate Medical Institute, 30 The Fenway, Boston.

73. Dr. Harold Swanberg, Secretary, Tri-State Postgraduate Association of Illinois, Missouri and Iowa, 209-224 W.C.U. Bldg., Quincy, Ill.

76. Dr. Matthew Molitch, 705 Pacific Ave., Atlantic City, N. J.

77. Office of Continuation Education, The School of Medicine, University of North Carolina, Chapel Hill, N. C.

78. Dr. R. Stuart Roberson, Hazelwood, N. C.

80. Dr. William G. Stephenson, 612 Medical Arts Bldg., Chattanooga, Tenn.

82. American Geriatrics Society, 25 Mechanic St., Wakefield, R. I.

84. Medical Extension, University of California, San Francisco 22.

107. Columbia University, 630 W. 168th St., New York 32.

110. Edwin R. Meiss, Cancer Society, 1044 Chapel St., New Haven, Conn., or Dr. Creighton Barker, Executive Secretary, Connecticut State Medical Society, 160 St. Ronan St., New Haven, Conn.

111. Communicable Disease Center, Laboratory Training Services, P.O. Box 185, Chamblee, Ga.

113. Communicable Disease Center, Virus and Rickettsia Laboratories, U.S. Public Health Service, Montgomery, Ala.

116. Dr. Joseph A. Beauchemin, Program Director, Ninth Connecticut Postgraduate Seminar in Psychiatry and Neurology, Connecticut State Hospital, Middletown, Conn.

119. Bureau of Maternal and Child Health, Florida State Board of Health, P.O. Box 210, Jacksonville, Fla.

145. Martland Medical Center, Newark, N. J.

157. American Academy of Plastic Surgery of Head and Neck, Manhattan General Hospital, 307 Second Ave., New York.

165. Dr. Harry Weber, Director, Mayo Clinic, Rochester, Minn.

171. Cleveland Area Heart Society, 2073 E. Ninth St., Cleveland.

174. Oswald Swinney Lowsley Foundation for Urology, 451 W. 51st St., New York 21.

176. Dr. Creighton Barker, Executive Secretary Connecticut State Medical Society, 160 St. Ronan St., New Haven, Conn.

177. Oklahoma City Clinical Society, 503 Medical Arts Bldg., Oklahoma City.

182. Medical Extension Education, University of Southern California School of Medicine, 3025 Zonal Ave., Los Angeles 33.

185. Dr. Philip A. Reynolds, Secretary, 2010 Wilshire Blvd., Los Angeles 57.

186. Dr. A. J. Murietta, Jr., 635 S. Westlake Ave., Los Angeles 57.

190. Graduate School of Medicine, University of Pennsylvania, Philadelphia.

194. University of Minnesota Center for Continuation Study, Minneapolis 14.

206. The University of Texas Postgraduate School of Medicine, Texas Medical Center, Houston, Texas.

209. Washington State Medical Society, 1309 Seventh Ave., Seattle.

210. Medical Postgraduate Division, Tufts University School of Medicine, 171 Harrison Ave., Boston.

211. Dr. Robert L. Bennett, Medical Director, Georgia Warm Springs Foundation, Warm Springs, Ga.

217. Executive Office, 412 Jesse H. Jones Library Bldg., Houston 25, Texas.

220. Dr. C. A. Smith, Chief, Venereal Disease Control Program, Division of Special Health Services, Bureau of State Services, Public Health Service, Department of Health, Education, and Welfare, Washington 25, D. C.

222. Postgraduate Committee, Tennessee State Medical Association, 4 S. Dunlap, Memphis 3, Tenn.

227. North Carolina State Board of Health, Raleigh, N. C.

230. American College of Chest Physicians, 112 E. Chestnut St., Chicago 11.

233. Dr. Harold A. Jacobziner, Assistant Commissioner, New York City Health Department, 125 Worth St., New York.

234. Kips Bay Health Center, 411 E. 69th St., New York.

235. The Radiological Society of North America, Inc., 713 E. Genesee St., Syracuse, N. Y.

237. Wisconsin Academy of General Practice, 758 N. 27th St., Milwaukee, 8.

239. New Orleans Graduate Medical Assembly, Room 103, 1430 Tulane Ave., New Orleans 12.

240. The American College of Physicians, 4200 Pine St., Philadelphia 4.

244. American Diabetes Association, Inc., 1 E. 45th St., New York 17.

247. Connecticut Division, American Cancer Society, 1044 Chapel St., Hartford, Conn.

249. Texas Academy of General Practice, 208 W. 15th St., Austin, Tex.

252. University of Missouri, Columbia, Mo.

255. Dr. F. P. Rhoades, Chairman, Educational Program Committee, Michigan Academy of General Practice, 970 Maccabees Bldg., Detroit 2.

258. James C. Anderson, Executive Secretary, International Medical Assembly of Southwest Texas, P.O. Box 2445, San Antonio 6, Texas.

263. American College of Gastroenterology, 33 W. 60th St., New York 23.

264. Oregon State Medical Society, 1115 S.W. Taylor St., Portland 5, Ore.

266. Dr. Louis P. Armanino, Chairman, Postgraduate Committee, 2633 Pacific Ave., Stockton, Calif.

270. Dr. James A. Blake, Minnesota Academy of General Practice, 15 Ninth Ave., S., Hopkins, Minn.

271. New York Academy of Medicine, 2 E. 103rd St., New York 29.

276. Missouri State Medical Association, 623 Missouri Bldg., St. Louis.

277. Dr. P. V. Siegel, Secretary, Bothwell Hospital, Sedalia, Mo.

279. Central Office, American Academy of Orthopedic Surgeons, 116 S. Michigan Ave., Chicago.

280. Mr. H. H. Allen, Allen Travel Service, Inc., 550 Fifth Ave., New York.

282. Dr. J. Jesse Selinkoff, Chairman, Education Commission, Delaware Academy of General Practice, 1305 New Rd., Wilmington 5, Del.

288. Dr. George M. Jones, Secretary-Treasurer, The Texas Academy of Internal Medicine, Medical Arts Bldg., Dallas, Texas.

292. The Dallas Tuberculosis Association, 3925 Maple, Dallas, Texas.

294. Virginia Academy of General Practice, 1105 W. Franklin St., Richmond, Va.

299. Dr. Edward J. Welsh, Chairman, Committee for Course, Massachusetts Tuberculosis and Health League, 131 Clarendon St., Boston 16.

302. Illinois Academy of General Practice, 14 E. Jackson Blvd., Chicago 4.

309. American Institute for Psychoanalysis, 220 W. 98th St., New York.

310. Courses for Graduates, Harvard Medical School, 25 Shattuck St., Boston 15.

316. Dr. C. A. Broaddus, Director, Postgraduate Activities, California Medical Association, Box A-1, Carmel, Calif.

318. Dr. Karlton Kemp, Tri-State Medical Society, 408 Hazel, Texarkana, Ark.

320. American Congress of Physical Medicine and Rehabilitation, 30 N. Michigan Ave., Chicago.

321. State University of New York College of Medicine, 462 Clarkson Ave., Brooklyn 3, N. Y.

325. Massachusetts Academy of General Practice, 37 Nathan Rd., Newton Center 49, Mass.

327. Chicago Medical Society, 86 E. Randolph St., Chicago.

359. Ophthalmological Study Council, Sullivan Harbor, Maine.

381. Southwestern Poliomyelitis Respiratory Center (Jefferson Davis Hospital), 1801 Buffalo Drive, Houston, Texas.

382. Queen's University, Faculty of Medicine, Kingston, Ontario, Canada.

383. Department of Medicine, Graduate School, University of Florida, Jacksonville 4, Fla.

386. Dr. Sam S. Zuckerman, Memorial Hospital, Cheyenne, Wyo.

387. Wyoming State Medical Society, Box 2036, Cheyenne, Wyo.

395. Mt. Sinai Hospital of Greater Miami, 4300 Alton Rd., Miami Beach, Fla.

438. American Academy of Ophthalmology and Otolaryngology, 100 First Ave. Bldg., Rochester, Minn.

	Enrollment	
	Minimum	Maximum
1.	100	250
4.	35	50
6.	5	12
8.	5	...
9.	5	20
11.	20	50
13.	1	1
15.	...	3
18.	8	16
19.	6	20
20.	...	25
21.	1	4
23.	2	2
24.	8	8
25.	12	12
26.	6	30
27.	...	40
28.	6	12
30.	25	60
31.	10	30
32.	3	...
33.	20	...
34.	10	25
36.	700	985
41.	...	35
42.	...	75
45.	...	60
46.	15	40
47.	5	45
48.	5	40
49.	5	6
50.	1	...
51.	...	20
52.	...	50
53.	50	100
54.	75	200
57.	...	30
58.	10	20
59.	3	4
61.	...	500
62.	200	500
64.	6	15
71.	35	150
72.	35	100
75.	975	1,075
76.	5	50
79.	100	150
81.	500	800
83.	10	16
85.	...	100
87.	2	6
88.	3	6
89.	3	15
90.	2	5

	Minimum	Maximum	
91.	2	4	
92.	6	10	
93.	10	15	
94.	15	75	
95.	5	10	
96.	20	100	
97.	10	35	
98.	8	10	
100.	...	110	
101.	10	50	
102.	...	10	
103.	...	15	
106.	...	6	
108.	6	...	
109.	12	...	
112.	...	12	
114.	...	22	
115.	1	3	
117.	4	10	
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121.	...	31	
122.	1	5	
124.	50	80	
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131.	4	6	
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136.	4	...	
137.	125	225	
141.	...	65	
142.	...	18	
144.	20	40	
147.	4	16	
148.	15	25	
149.	20	30	
150.	10	...	
151.	4	15	
152.	10	10	
153.	15	50	
154.	...	37	
155.	12	30	
156.	10	40	
159.	10	100 (lecture)	
	...	20 (seminar)	
160.	5	15	
161.	10	100 (lecture)	
	...	25 (seminar)	
162.	10	80	
163.	...	300	
168.	5	8	
169.	15	20	
173.	15	30	
175.	...	85	
178.	900	1,000	
180.	35	75	
181.	35	40	
183.	...	4	
187.	...	2	
188.	80	200	
191.	3	12	
192.	10	55	
193.	16	20	
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196.	3	3	
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203.	25	25	
204.	10	18	
205.	1	6	
207.	25	50	
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214.	...	54	
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218.	2,300	3,000	
219.	...	180	
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223.	15	35	
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231.	75	150	
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236.	...	1,000	
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259.	32	32	
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262.	100	300	
265.	30	60	
267.	80	150	
272.	25	40	
275.	100	200	
278.	12	15	
283.	40	65	
287.	12	24	
293.	30	150	
295.	30	45	
296.	2,000	3,000	
300.	25	100	
301.	30	...	
303.	25	90	
304.	35	90	
305.	30	70	
306.	35	70	
307.	30	55	
308.	30	75	
311.	20	35	
312.	12	50	
313.	20	25	
314.	40	75	
317.	50	500	
326.	20	75	
332.	2	3	
338.	2	12	
340.	60	60	
342.	1	10	
344.	...	8	
347.	25	35	
350.	50	125	
352.	50	100 (lecture)	
	...	25 (seminar)	
353.	5	46	
356.	...	1	
361.	1	16	
362.	13	78	
363.	1	42	
364.	1	7	
365.	2	24	
366.	1	14	
367.	7	29	
368.	1	15	
369.	4	15	
370.	2	29	
371.	1	20	
372.	20	20	
373.	41	44	
376.	65	...	
378.	75	75	
379.	...	70	
384.	126	212	
385.	75	250	
392.	124	204	
393.	60	75	
406.	7	10	
407.	40	40	
408.	30	30	
410.	10	90	
411.	6	25	
413.	...	120	
414.	2	...	
417.	25	66	
425.	12	45	
433.	15	45	
445.	15	18	
448.	55	80	

Sponsors and Co-Sponsors

17. Kansas Society of Anesthesiology, Kansas City Society of Anesthesiologists, Kansas Medical Society, Kansas State Board of Health.

39. Kansas Heart Association; Kansas City, Missouri, Heart Association; Kansas State Board of Health; Kansas Medical Society.

68. Greater Kansas City Academy of General Practice, Wyandotte Academy of General Practice.

69. Kansas Medical Society, Kansas Academy of General Practice, Kansas State Board of Health.

86. Kansas State Obstetrical Society, Kansas Medical Society, Kansas State Board of Health.

123. Kansas City Society of Ophthalmology and Otolaryngology, Kansas Medical Society, Kansas State Board of Health.

140. Kansas Medical Society, Kansas State Board of Health.

146. New Jersey Department of Health, New Jersey Medical Society.

164. Kansas Medical Society, Kansas State Board of Health, Kansas Tuberculosis and Health Association.

167. Kansas Radiological Society; Radiological Society of Greater Kansas City; Kansas Medical Society; Kansas State Board of Health; Kansas Division, American Cancer Society.

170. Kansas Medical Society; Kansas State Board of Health; Kansas Division, American Cancer Society.

215. Michigan State Medical Society, Wayne University College of Medicine, Michigan Department of Health.

216. American Cancer Society, State Medical Society, State Health Department.

248. American Cancer Society, State Medical Society, State Health Dept.

274. Saranac Lake Medical Society, The American Trudeau Society, Adirondack Counties Chapter of the New York State Academy of General Practice.

285. University of Pennsylvania Graduate School, Delaware Academy of General Practice.

286. The Commission on Graduate Education, Medical Society of the State of Pennsylvania.

297. American College of Chest Physicians in conjunction with the Pennsylvania Academy of General Practice.

315. Lone Star Medical Association, Texas Tuberculosis Association, Prairie View Agricultural and Mechanical College.

328. American Trudeau Society, in cooperation with The Massachusetts Tuberculosis and Health League, Harvard Medical School, Harvard School of Public Health, Boston University School of Medicine, Tufts College Medical School.

Prerequisites

322. 1 yr. internship in general hospital and 2 yr. residency in psychiatry and license.

323. 1 yr. internship in general hospital.

329. M.D. degree from approved medical school and internship.

331. Selected by committee on admissions on basis of credentials.

333. 1 yr. formal training or practice.

335. 2 yr. formal training or practice.

337. 2 yr. postgraduate.

339. 3 yr. psychiatric training.

345. 1 yr. psychiatric residence and 1 yr. personal analysis.

346. 2 yr. psychoanalytic training and 1 yr. psychiatric residency.

349. M.D. degree.

351. 2 yr. psychiatric residence plus 3rd yr. before graduation.

354. AS-6: see course 618.

355. A-1, AS-1, A-2 or A-4, A-3, AS-3, AS-6, A-8 or A-9: See 613-616, 618, 620.

357. Acceptance by course director.

360. Graduates in medicine.

375. Doctors with internship and 1 yr. accredited residency in psychiatry.

377. Graduates in medicine; undergraduates who have completed 1 yr. of medical course.

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380. Graduate from grade A school, approved internship, under age 40.

396. Degree in arts, science, or medicine, adequate background in physics, chemistry, and biology.

397. Degree in arts, science, or medicine; adequate background in physics, chemistry, and biology, including comparative anatomy or human anatomy and two foreign languages.

401. Basic courses: see 613, 616, 618, 620.

402. Candidate for certificate.

403. Candidate must be in supervision.

404. Decided individually at discretion of American Board in Psychiatry.

405. Matriculated student.

412. Certification as practicing psychoanalyst.

415. Resident of Jefferson-Hillman Hospital.

416. Residency and limited practice.

418. 1 yr. basic science training.

419. 2 yr. graduate training in the specialty.

421. M.P.H. degree.

424. M.D. or A.B. or B.S.

432. Qualified psychiatrist.

434. Candidates for American Board of Surgery and F.R.C.S. (C) (Royal College).

435. Exam. American Board of Internal Medicine and F.R.C.P. (C) (Royal College).

436. Candidates for American Board of Obstetrics and Gynecology and F.R.C.S. (C) (Royal College).

439. 1 yr. rotating internship.

441. Graduate of an approved medical school.

443. Rotating internship, 3 yr. postgraduate training.

447. M.D. or other professional training, with experience in field of public health.

449. M.D., M.P.H., and departmental invitation.

450. 2 yr. of psychoanalysis.

451. Enrollment in professional school course in institute.

Academic Degree Given

334. Doctor of science in industrial medicine.

336. Master of industrial medicine.

341. Master of public health.

343. Doctor of public health or doctor of philosophy.

374. Psychoanalyst.

388. Diploma of doctor of public health.

391. Bachelor of science (medical).

398. Doctor of science in hygiene.

400. Master of medical science.

420. Doctor of public health.

422. Diploma of doctor of medical radiology.

423. Master of science.

440. Diploma of doctor of industrial hygiene.

442. Master of surgery.

446. Diploma of doctor of psychiatry.

Miscellaneous:

5. Certificate given.

16 Examination given.

37. Course immediately precedes 4th Western Cardiology Conference (P-01255). Arrangements for joint registration may be made.

65. Course immediately precedes P-01285, "Electrolyte and Fluid Balance." Arrangements may be made to register for both courses at reduced tuition.

66. One day will be devoted to each of the following areas: internal medicine, pediatrics, surgery, obstetrics and gynecology, psychosomatic medicine and psychiatry, and general medicine. Arrangements may be made to register for single days.

67. Fee for academy members, $10; nonmembers, $20.

74. No fee to members.

99. Course designed for specialists in internal medicine for part 1 and for general practitioners for part 2.

104. Open only to foreign physicians.

105. Monthly.

138. First 3 days, otolaryngology; last 3 days, ophthalmology.

139. $75 for whole course, $40 for either part.

143. Course is accepted for credit by American board in that specialty.

158. All courses given in the evening with the exception of supervision and training analyses. Time for these courses is arranged individually.

166. No charge for residents in radiology or members.

172. No charge for physicians and interns.

179. Associate members, $25.

184. This course, sponsored by the Los Angeles County Heart Association, consists of a single 3 hr. laboratory session. Courses are given weekly throughout the year.

189. Alumni, $85.; nonalumni, $100; incoming students free.

213. Fee for members, $35; nonmembers, $50.

241. Nonmembers, $60.

246. $40, association members; $75, nonmembers.

254. The instructor will lecture in each of 5 teaching centers one night a week and repeat the circuit for 10 weeks.

268. Tuition fee: 1st mo., $150; 2nd mo., $75; 3rd mo., $50; 3 following months, $25 each; 1 yr., $450.

273. Additional 6 mo. may be given.

281. Fee paid by North Carolina Health Dept.

284. $5 registration for nonmembers of the American Academy of General Practice.

289. Members only.

298. Tuition for physicians in Oregon is paid by the Oregon Division of the American Cancer Society, and that for physicians in Idaho and Alaska is paid by their local cancer division.

319. Presented by United States Chapter, International College of Surgeons, in cooperation with Cook County Graduate School of Medicine.

324. This course is set up to provide residency training for the physician who is not eligible for a hospital residency because of noncitizenship or other similar reasons.

330. $300 for 6 mo.; $600 for 12 mo.

348. Fee: 1st yr., $500; 2nd yr., $300; 3rd yr., $200.

358. Fee: 6 mo., $500; 12 mo., $1000.

389. Parts of this course may be taken as follows: Basic Sciences in Ophthalmology, 9/26/55-1/20/56; Introduction to Clinical Ophthalmology, 1/23/55-3/3/56.

390. Parts of this course may be taken as follows: Histopathology of the Ear, Nose and Throat, 10/31/55-11/26/55; Anatomy of the Head and Neck, 11/28/55-1/28/56; Audiology, 1/30/56-2/11/56; Anatomy of the Temporal Bone, 2/13/56-3/24/56.

394. $30, members; $60, nonmembers.

399. Affiliated with University of Pittsburgh, Pittsburgh.

409. Fee: $10, residents; $25, practicing physicians.

426. In this course there are 960 hr. plus 3 mo. field work. Less for holders of D.P.H.

427. Residents, $52; nonresidents, $167.

428. Residents, $28; nonresidents, $79.

429. Residents, $28 or $79; nonresidents, $41 or $119.

430. This is a combination course given by the University of Colorado School of Medicine and Fitzsimons General Hospital.

431. Residents, $41; nonresidents, $119.

437. Resident, $170; nonresident, $380.

444. Thesis, fellowship in surgery.

452. In this course there are 4 yr. of lectures, seminars, and preceptor sessions (4th yr. courses are elective) as follows: 1st yr., 116 hr.; 2nd yr., 88 hr.; 3rd yr., 103 hr.; 4th yr., 39 hr. The hours of clinical work are in addition to the above.

453. In this course there are 4 yr. of lectures and seminars as follows: 1st yr., 60 hr.; 2nd yr., 60 hr.; 3rd yr., 36 hr.; 4th yr., 66 hr. The hours of field and clinical work are in addition to the above.

MEDICINE AND THE LAW

HOSPITAL STAFF PRIVILEGES CONTINGENT UPON MEMBERSHIP IN COUNTY MEDICAL SOCIETY

The courts have consistently held that the governing body of a public hospital may adopt rules and regulations that are reasonable, that tend to promote efficiency in the running of the hospital, and that are necessary in order that the hospital may better carry out the duties and obligations that it owes to the public.[1] Under this power to prescribe reasonable rules and regulations, it has been held that the governing board of a public hospital may refuse to allow a duly licensed physician and surgeon to practice his profession in the hospital. Such an exclusion must not, however, be based on grounds that are unreasonable, arbitrary, capricious, or discriminatory.[2] The one known exception to this rule occurred in a recent case decided by the Michigan Supreme Court [3] relating to the right of a governmental hospital to determine which physicians might or might not use its facilities. This case was discussed in detail in this column in the April 9, 1955, issue of THE JOURNAL.

In recent years there has been an increasing number of cases before the courts in which the issue was the reasonableness of a particular rule or regulation of the governing body of a public hospital under which a duly licensed physician was excluded from the hospital. Rules excluding osteopathic physicians from public hospitals have been held reasonable on the ground that in the management of a hospital some choice in methods of treatment would seem inevitable.[4] A rule has been held reasonable,[5] which provides that a physician, in order to engage in surgery, must, in addition to being licensed by the state, have had one year of service as an intern in an approved hospital and three years of surgical training that meets the approval of the American College of Surgeons. Also held reasonable was a rule providing that in order to be allowed to perform major surgery in the hospital, the physician had to meet the probationary requirements prescribed by the American College of Surgeons.[6] A rule requiring membership in the county medical society as a condition of being allowed to practice has been held unreasonable.[7] The exclusion of physicians from a public hospital on the sole ground that they were practicing contract medicine has been held to be arbitrary and capricious.[8]

The most recent case with respect to the question of the reasonableness of a particular regulation of the governing board of a public hospital under which a physician was excluded from the hospital was decided by the Supreme Court of Arkansas on June 13, 1955.[9] The plaintiff physician was denied admission to practice in the Ouachita General Hospital, a county hospital supported by public funds. The defendant board of governors of the hospital denied him admission on the ground that he was not a member of the Garland County Medical Society as required by article 5 of the bylaws of the hospital. The plaintiff physician brought his action to enjoin the board of governors from further denying him staff privileges and use of the hospital's facilities. While the action was pending, the board of governors amended article 5 of the bylaws of the hospital so as to make the approval and recommendation of the Garland Medical Society a prerequisite for use of the hospital facilities as a physician instead of the former requirement of membership in the society.

The plaintiff was duly licensed to practice medicine in Arkansas and had practiced in Hot Springs since 1937. During the past 15 years he had made 12 applications for membership in the Garland County Medical Society. Each time his application was rejected without any reason indicated. It was admitted that the plaintiff was excluded from the hospital solely on the grounds that (1) he was not a member of the Garland County Medical Society and that (2) he did not have the approval and recommendation of that society.

The court accepted the general rule that a public hospital may enact rules and regulations applicable to all physicians and surgeons alike that bear a reasonable and fundamental relation to the safety, interest, and welfare of patients and the general public but that its governing authorities cannot exclude a physician by rules and regulations that are arbitrary and capricious. The court, citing in support of its position *Hamilton County Hospital* v. *Andrews*,[10] found that the bylaw in question did not bear a fundamental relation to the safety, interest, and welfare of patients and the general public. The court said that the fact that the board of governors, which was composed entirely of businessmen rather than medical men, needed a group to whom they could turn for advice in considering applicants for staff membership was not sufficient to make the bylaw reasonable. They may consult with and get advice from medical and hospital groups, including county medical societies, in the formulation of rules that bear a reasonable relationship to public safety and welfare, but the rules formulated on the advice of these groups cannot be arbitrary. The rule here in question is arbitrary because the medical society is a private organization whose membership may bestow or withhold approval of a fellow physician's application for a valid reason or for no reason at all. The court stated that as affecting validity, it could perceive "no material difference between a rule that makes membership in a medical society a prerequisite to staff privileges and one that requires approval and recommendation by the membership of said society. An organization that has consistently refused a physician membership over a period of 15 years without any announced reason would hardly be expected to approve and recommend such a physician to staff privileges in the hospital. The membership of a society that would reject the application for membership in the first instance would in all probability withhold its approval in the second instance. It would be contrary to human nature to . . . [suppose] that they would do otherwise."

Counting the subject case there have been only two cases [11] that have passed squarely on the question of whether membership in a county medical society can be made a prerequisite to staff privileges in a public hospital, and both cases have held that such a regulation is arbitrary, capricious, and discriminatory. The point was raised in a third case,[12] but the court deemed it unnecessary to pass on the question since it had declared invalid the rule of the medical society under which the physicians had been denied membership in the society; however, the tenor of the court's opinion is such as to indicate that it would have found the regulation, making society membership a prerequisite to staff privileges in a public hospital, unreasonable. There is also a case [13] involving a private hospital in which it is indicated that membership in a medical society can be made a prerequisite to staff privileges in a private hospital. This is in accord with the established rule that the governing body of a private hospital has an unlimited power with respect to prescribing rules and regulations as to the qualifications and responsibilities of its staff members.[14] Although there have been only these few cases involving the problem, it appears that so long as a county medical society continues to be regarded as a purely private association, with the sole power of determining what persons it will admit to membership, a regulation, such as the one in the present case, will be regarded as arbitrary and unreasonable.

1. *Hayman* v. *City of Galveston*, 273 U. S. 414 (1927). *Findlay* v. *Board of Supervisors of the County of Mohave*, 230 P. (2d) 526 (Ariz., 1951). *Hamilton County Hospital* v. *Andrews*, 84 N. E. (2d) 469 (Ind., 1949). *Green* v. *City of St. Petersburg*, 17 So. (2d) 517 (Fla., 1944). *Memorial Hospital of Sheridan County* v. *Pratt*, 262 P. (2d) 682 (Wyo., 1953).

2. *Findlay* v. *Board of Supervisors of the County of Mohave*, 230 P. (2d) 526 (Ariz., 1951). *Group Health Cooperative of Puget Sound* v. *King County Medical Society*, 237 P. (2d) 737 (Wash., 1951).

3. *Albert* v. *Board of Trustees of Gogebic County Public Hospital*, 67 N. W. (2d) 244 (Mich., 1954).

4. *Hayman* v. *City of Galveston*, 273 U. S. 414 (1927). *Richardson* v. *Miami*, 198 So. 51 (Fla., 1940). *Newton* v. *Board of Commissioners of Weld County*, 282 Pac. 1068 (Colo., 1929).

5. *Hamilton County Hospital* v. *Andrews*, 84 N. E. (2d) 469 (Ind., 1949).

6. *Green* v. *City of St. Petersburg*, 17 So. (2d) 517 (Fla., 1944).

7. *Hamilton County Hospital* v. *Andrews*, 84 N. E. (2d) 469 (Ind., 1949).

8. *Group Health Cooperative of Puget Sound* v. *King County Medical Society*, 237 P. (2d) 737 (Wash., 1951).

9. *Ware* v. *Benedikt*,—— S. W. (2d)——(Ark., 1955).

10. 84 N. E. (2d) 469 (Ind., 1949).

11. *Ware* v. *Benedikt*,——S. W. (2d)——(Ark., 1955). *Hamilton County Hospital* v. *Andrews*, 84 N. E. (2d) 469 (Ind., 1949).

12. *Group Health Cooperative of Puget Sound* v. *King County Medical Society*, 237 P. (2d) 737 (Wash., 1951).

13. *Weyrens* v. *Scotts Bluff County Medical Society*, 277 N. W. 378 (Neb., 1938).

14. *West Coast Hospital Association* v. *Hoare*, 64 So. (2d) 293 (Fla., 1953).

MISCELLANY

THE OUTLOOK FOR SOCIAL SECURITY

A. L. Kirkpatrick

The following article appeared in more detail in the October-November, 1954, issue of American Economic Security. *It is reproduced with the permission of the editor and author.*—ED.

The great issue of our time—the great basic struggle which underlies most of the apparent disturbances in the world today—is the struggle for the freedom of the individual from domination by others. Men everywhere are striving to assert their God-given right to govern their own lives, make their own decisions, possess property of their own, work at a job of their own choosing, retain the major part of the fruits of their own production and to provide for their own security. Along with the desire for freedom is the almost universal desire for economic security.

It is important to recognize that real security, even economic security, involves a large measure of faith and reliance upon God as the Creator and Governor of His Universe. When individuals, under God's guidance, rely on their own efforts and voluntary private means of providing security, it is attainable, not only without sacrifice of freedom, but actually with greater freedom of thought and action. But the temptation is strong to sacrifice freedom to government or anyone who holds a reasonable promise of a secure income for the future. When the promise offers security for little or no effort on the part of the individual, the temptation becomes very appealing.

FEDERAL SOCIAL SECURITY SYSTEM

Our system of federal social security offers millions of individuals substantial incomes in their later years and that government, or that political party which promises the most liberal benefits for the least cost feels that it has a powerful weapon with which to get and retain itself in power. It is extremely important, therefore, that this system be subjected to periodic review.

The Congress has just enacted extensive amendments to the Social Security Act. It has increased the level of benefits, raised the tax base, added a "freeze" of benefit rights during permanent and total disability and extended coverage to about 10 million additional persons. But at no time since the passage of the law in 1935 has Congress given adequate consideration to any study of what the law should do, what it has accomplished and where it is leading us.

The Senate in 1950 authorized its Finance Committee to make such a study at the same time it increased the benefits and launched the "new start." In fact, the promise to study the system was regarded by some as almost a condition for the passage of the benefit improvement bill. But the study was never made. Nobody seemed to have any stomach for the task. In 1953 the House of Representatives authorized its Ways and Means Committee to make such a study. Congressman Carl Curtis headed the subcommittee which conducted the most thorough-going examination which has yet been made. But its findings and recommendations were almost totally ignored by the House and Mr. Curtis' bill was side-tracked for another which closed its eyes to the present defects of the system. The 1954 Amendments continue the building-up process which has been going on for the last seventeen years without a soul-searching review.

EXPANSION OF THE SYSTEM—1937 TO 1954

Let's look at what has happened since the original law was enacted in 1935. First, benefit levels have been successively increased. The initial current maximum payable to a single beneficiary has risen from $25 in 1935 to $108.50 in 1954. The minimum benefit has been increased from $10 to $30 per month. Benefit payments were to have started in 1942, but in 1939 the date was advanced to 1940.

While the Act at first provided only a retirement income for the worker, plus a cash death benefit to the widow, the 1939 Amendments added a system of dependent and survivor benefits which took the system all the way into the field of life insurance protection. In 1949 the bill passed by the House included permanent and total disability benefits but the Senate bill and the final bill excluded this provision. A disability "freeze" was actually written into the 1952 Amendments but was nullified by another amendment. The recent 1954 Amendments actually puts the "freeze" provision into effect.

The rate of taxation started in 1937 at 1% of payroll for employee and employer and was to have increased by 1% each three years to a maximum of 3%. But Congress acted in 1939 to defer the increase until 1943. Further deferments actually postponed the increase until 1950 when the rate went to 1½%. In 1954, it was increased according to schedule to 2% for employee and employer with the maximum of 4% each now written into the law. The tax base, too, has been increased from its original $3,000 of payroll to $3,600 in 1950 and to $4,200 in the 1954 Amendments. This is a substantial shift in the incidence of the tax to the higher incomes where protection is less needed.

The provision for federal grants-in-aid to the states for old-age relief, which gave the general impression that it was adopted originally as a temporary stop-gap and intended to be sloughed off as the direct payment system took in more and more beneficiaries, has continued in full force and with increasing rather than decreasing amounts. In 1953 federal grants to the states under the Old-Age Assistance program totaled some $900 million. This compares with $119 million in 1937. So we see that the pattern of our social security system during its eighteen years has been one of constant expansion into the area where the federal government takes over more and more of the responsibility for the well-being of its individual citizens.

THE FORCES AT WORK

What are the forces behind this trend? Where will it end? Is it a good thing for the long-range good of the country? The answers to these questions are not easy. We can only judge on the basis of the past record and our present evaluation of them. One of these forces is a strong pressure being exerted through the labor unions and numerous groups organized mainly for the purpose of pressing for federal government largess for, and control over, the lives and well-being of individual citizens. Another factor is a widespread apathy and a lack of understanding of the social security system—its basic philosophy, how it really works, and what its ultimate costs may be. Apathy and ignorance are not forces. Rather, they are vacuums which permit active forces to move in and that is about what has been happening in social security.

Contributing to this indifference is the fact that social security is not an attractive, or even an interesting, subject to the average businessman. He instinctively abhors and shrinks from the idea of a compulsory federal welfare system. He would prefer not to hear about it, let alone study it and work to terminate its evils and put it on a sound basis. He would prefer, if left to his own desires, to close his eyes and ears to what is going on in social security and hope that somehow its evils and abuses would go away. The result has been that the champions of government largess are crusading for a cause where there are few defenders of a sound economy. For the most part, even these few defenders are not well organized, many of them are only partially informed and are without enthusiasm for their cause. Also, it has been quite easy for the welfare advocates to confuse the real nature of the social security system, how it works, its cost and its rapidly accumulating liabilities. This is done by the use of misleading terms. For example, calling it "insurance," speaking of "coverage" and telling its beneficiaries, "you've paid for it, it's yours as a matter of right." How far from the real facts these terms are.

ENCROACHMENT ON PRIVATE LIFE INSURANCE

Still another reason for the relatively easy extension of the program up to date is the fact that many life insurance men apparently became convinced that it was a good thing for private life insurance and stimulated its sale. Agents found it easy to

get into an interview by asking the prospect if he would like to know how much his social security pension will be. But the figures don't bear out that conclusion. The assets of the life insurance companies at the end of 1953 were 2.7 times what they were at the end of 1937 when the Social Security Act became effective. The increase is from $29,243,000,000 to $78,533,000,000. Life insurance premiums [almost tripled] in that period, from $3,776,000,000 to $10,847,000,000. Those are very impressive gains. But it must be remembered that, in that period the purchasing power of the dollar has dropped to roughly half its 1937 value, the population and the productive capacity of our people have, on the other hand, increased.

The Gross National Product of the country for 1953 was over 4 times what it was in 1937, increasing from $90 billion to $367 billion, and personal consumption expenditures [more than tripled,] rising from $67 billion to $230 billion. In other words, the amount of money going into private life insurance has not kept pace with the growth of the country in spite of the impressive gains which its figures show. During that period federal government "life insurance coverage" as represented in the social security system, approached the total life insurance in force in all private companies and went beyond in 1952. With the 1954 Amendments the social security "insurance" coverage exceeds the private volume in about the ratio of 4 to 3. The amount of pensions in force under social security are estimated at roughly ten times the annuity business of the private companies.

PRESENT BENEFITS PAID BY FUTURE GENERATION

Still another reason for the easy expansion of the federal benefit system is because the plan has been so developed that the tax burden falls very lightly on the present generation of workers and voters. We have the unique situation of the present generation legislating one rate of taxation for ourselves today and a progressively higher rate of tax on the next generation to whom we look to pay our old-age benefits.

ULTIMATE END—CRADLE-TO-THE-GRAVE

Where will it end? Are we to see a continuous year-after-year increase in benefit levels, raising of the basis of tax incidence into the higher brackets and the addition of more and more kinds of benefits? I think there is really no question about the ultimate end. The only question is how fast will the rate of progress be made or what can be done to make the Congress face up to the real cost of these benefits. The ultimate goal, advocated by our national labor organizations may be the program embodied in the "Minimum Standards for Social Security" convention adopted at the annual meeting of the International Labor Organization in Geneva in 1952. They are:

1. Old-age and survivor benefits which we already have in this country. The amount of benefits, however, would provide a comfortable living rather than a mere subsistence level to be supplemented by individual efforts;

2. Permanent and total disability benefits;

3. Weekly benefits for unemployment from any cause, whether inability to secure a job, sickness or accident either occupational or non-occupational. This means, of course, the socialization and nationalization of our present workmen's compensation system;

4. Maternity benefits;

5. A monthly payment to each family for each dependent child;

6. A lump-sum job separation payment; and

7. National compulsory health insurance or socialized medicine.

That is the program. In 1952 the labor delegate from the United States and also our government delegate to the ILO voted for it. Our employer delegate alone voted against it. In past years, officials of our social security system and our federal Department of Labor have been active in the ILO movement to get this program adopted, in whole or in part, in all countries of the world.

WHAT WOULD IT COST?

What would such a system of benefits cost? How much of a burden would it put upon our productive machinery? In South America some countries have much of the ILO program already in effect, and their tax rates are as high as 25% of payroll. In France, the tax rate is 35% of much of their payroll and is one of the principal reasons for the failure of the French economy to make a post-war comeback.

Benjamin Kendrick, Research Associate for the Life Insurance Association of America, and a recognized authority in this field, in a public address not long ago, estimated the ultimate cost of the whole program, if put into effect in this country, would be 30% of payroll as a minimum and could cost as much as 40% of taxable payroll.

WHAT'S AHEAD?

What's ahead? What do the advocates of individual responsibility for one's own welfare need to do to put a stop to this unwarranted abuse of the taxing power of government? To put it broadly, it seems obvious that we need to reform our ranks, review both our defensive and offensive strategy and to launch an action program aimed to awaken a sleeping population to what is going on largely unknown to it. At least many people appear to have no conception of the long-range implications and cost of the program that is being gradually projected upon them.

We are living in what Sir Winston Churchill might call an attempted state of "peaceful coexistence" with the welfare pressure groups, with the forces which are seeking to make the individual subservient to government. But Sir Winston also pointed out that any attempt at "peaceful coexistence" with aggressors must be "vigilantly guarded." The businessmen of the country, years ago, accepted our national old-age and survivorship program as a basic part of our economic system, on the premise that it's benefits should be kept at a "minimum level." In the light of the pressures which have developed for more and higher benefits and the relative ineffectiveness of the resistance to this expansion, many are now wondering if they made a mistake in agreeing to "peaceful coexistence."

THE TRAGEDY OF THE OLD FRATERNAL ASSESSMENT INSURANCE PLANS

Some years ago, the fraternal societies of the country were forced to liquidate their early assessment life insurance plans which ended in such tragedy for their longest-lived members and their beneficiaries. The actuaries know the story quite well. Many old time life insurance men remember the cases of policyholders in these assessment plans who paid premiums for many years, only to find that, in their old age, the premiums they had been paying were hopelessly inadequate and that they must now either pay a premium which was virtually prohibitive or expect a greatly reduced payment at the maturity of the policy.

How did this happen? Because the fraternal societies failed to understand the accumulating liability of benefits payable to an aging population. When the lodge members were young men and women, the mortality rate was very low and the cost of insurance was low. But as they grew older, the mortality rate increased and the demands against the funds of the society increased until, finally, they were unable to meet them and were forced to reorganize. The older policyholders lost a large part of their insurance after paying premiums for many years.

Our national old-age and survivorship system is working in much the same way. It was designed to collect taxes from all workers in the covered classes, but to pay benefits in the early years to only a very few. At the beginning of the plan in 1937, taxes were collected from some 32,000,000 persons. But benefits were not commenced until 1940 and, then, were paid only to a part of those taxpayers who had reached age 65. The first year, payments were made to only some 222,000 persons.

FEW ELIGIBLE FOR BENEFITS IN EARLY YEARS

As with the fraternal plans, very few of those covered by social security became eligible for benefits in the early years. But the liability of the system to a slowly aging population continued to creep up year by year. This fact is fully understood by the actuaries but by very few others. The failure to understand this point has accounted, in large measure, for the general public misunderstanding of our system, how it is working and what its real cost is.

With private insurance, every policyholder pays his proportionate share of the total cost of benefits. For a private in-

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surance company to commence paying an annuity of $100 a month to a person aged 65, the company must have in hand some $12,000 to $15,000. That is the "cost" of the benefit.

NOT REALLY "INSURANCE"

With our social security system, the "cost" of benefits is no different than if paid by a private company. The main difference is that our system is depending largely upon its ability to collect taxes from the working population of future years. Actually, instead of our system being an "insurance" system in which each participant pays the cost of his own benefits, we have a plan in which the working population pays taxes into the fund to be used for the payment of benefits to the non-working aged population.

With few, if any, exceptions, every one who is presently receiving an old-age pension under the social security system has paid for no more than about 5% of the actual cost of his pension. The employer and employee contributions together have not ordinarily paid for more than 10% of the cost. On the average, employee taxes have paid for approximately 2% of the cost of their pensions and, together with their employers, they have paid for approximately 4% of the cost.

The remaining 96% of benefits has been paid, and is being paid, out of the taxes of the present workers. The pensions to these present workers, in turn, will have to be paid for by the taxes of the next generation of workers. While the system has accumulated a small excess of income over outgo leaving a reserve fund of some $19 billion, the experts indicate that this is not enough to pay the rest of the benefits to those now receiving old-age pensions and that the accumulated and undisclosed liability for pensions to all those who have paid taxes, amounts to more than $200 billion.

NEED TO PRESENT THE TRUTH

It has been apparent to close students of our federal social security system that some change in the present mechanism is necessary in order to show plainly to the entire country what the real cost of the existing level of benefits is and then, to have the present generation of the working population pay the full cost of the system in the same way we expect the next generation to pay its cost.

Those who fully understand the system and honestly want to face the facts don't want to see the country disillusioned some years hence as were the policyholders and beneficiaries of the old fraternal societies. Some of the original planners of our present system now are convinced that, had they known seventeen years ago what they have learned from actual experience with its operation, they would have insisted upon a somewhat different plan of financing.

On the other hand, there is reason to believe that some of the other planners seized upon the present mechanism for the deliberate purpose of concealing its true cost for many years in order to enable them to foist a much greater federal system on the country before the people woke up to its real nature and cost. . . .

WHAT NEEDS TO BE DONE?

In all frankness, it must be admitted that even if nothing is done to resist the trend, even if it is allowed to proceed year after year unopposed, it may have little adverse affect on most adult citizens. In fact, the further and faster it moves, the bigger benefits elderly individuals will collect when they reach 65. And the effect will scarcely be felt in the tax load which most of them will pay. That is to say, the 1954 Amendments, while increasing the benefit level, also spread out the tax load and delayed the need for facing up to real costs. It seems likely that most individuals who are now 45 or over will probably reap the benefits without the deficits from these changes. It will be 40 or 50 years before the system has reached complete maturity and the real cost laid before the taxpayers of that day.

It does seem somewhat ridiculous and selfish to have the present generation of employed persons under 65, who constitute the majority of the voters of today, voting larger and larger benefits for themselves, with any one individual and his employer so far having paid only 10% or less of the actual cost of the benefits he will get when he retires, and deferring the real cost to the working population of the next generation.

It seems a little incongruous for our Congressmen of today to write into the tax law rate graduate up to 4% each on the employer and employee of 20 years from now in order that they may pay benefits to many of those who paid only 1% each, and for a time 1½% each. I wonder what the attitude of the next generation of taxpayers will be? Will they pay the bill or will they find some scheme for avoiding that burden as we have done?

MEDICAL FILM REVIEWS

Ocular Bacteriology: Its Application to Clinical Practice: 16 mm., color, sound, 40 minutes. Sponsored by Alcon Laboratories, Fort Worth, Texas. Produced in 1954 by and procurable on loan from Medical Film Guild, Ltd., 506 W. 57th St., New York 19.

This film is a clinical symposium on the bacteriology of the eye. It consists of a panel discussion by the following persons: James H. Allen, Tulane University, moderator; Trygve Gundersen, Boston University; Phillips Thygeson, University of California; Hugh Ormsby, University of Toronto; Alson E. Braley, University of Iowa; Michael J. Hogan, University of California; and Gustav C. Bahn, Tulane University. The most important aspect of the film is its plea for recognition of the diminishing effectiveness of antibiotics in the treatment of infections of the eye. It urges the inclusion of bacteriological studies in the routine examination of every patient with inflammatory or infectious disease of the eye. The purpose of this rather long film is to emphasize the importance of specific diagnosis and ocular bacteriology in external ocular diseases. The general technique for taking a culture, plating the material, doing sulfonamide and antibiotic sensitivity tests and a few examples of morphology of conjunctival smears are presented effectively. Several types of external ocular infections are presented as illustrations of occasions when the making of a bacteriological culture and smear would be of diagnostic value. The quality of photography and the presentation are excellent; however, the voices of various members of the panel reproduce very poorly. It is somewhat difficult to decide at what type of audience this film is directed. It would emphasize to the general practitioner the importance of ocular bacteriology in making accurate diagnoses of external ocular inflammations; however, the general treatment of the subject, as to both the comments of the panel and isolated examples of many different types of external ocular infection, was superficial and would be of little interest to the average ophthalmologist. To an ophthalmologist with satisfactory previous training, a more thorough demonstration of fewer conditions with greater details of technique and findings would probably be of greater interest.

Cancer of the Urinary Bladder: Kinescope No. 23. 16 mm., color, sound, showing time 47 minutes. Prepared by Willet F. Whitmore, M.D.; Victor F. Marshall, M.D.; and James L. Green, M.D., Memorial Center for Cancer and Allied Diseases, New York. Produced in 1954 by and procurable on loan from American Cancer Society, 521 W. 57th St., New York 19.

This film was originally produced for closed-circuit television. The significant signs and symptoms and the techniques used in differential diagnosis of cancer of the bladder are described. Therapeutic approaches, including the rationale of radical surgery, are reasoned through. Clinical case histories, descriptions of gross and microscopic pathology, results of varied treatments, preoperative evaluation procedures, techniques of postoperative care, and the rehabilitation of patients after extensive surgery are all defined. There is a discussion of the incidence and location of bladder tumors and a discussion of urographic findings in a patient with carcinoma of the bladder. A very strong plea is made to the general practitioner for the early recognition of the symptoms of bladder tumors. The material is presented in a very clear, concise, factual, and well-organized manner. The dialogue is very good. Charts and diagrams are clear and effectively presented. This film is highly recommended for general practitioners and would also be of value in teaching residents, interns, and medical students.

MEDICAL LITERATURE ABSTRACTS

INTERNAL MEDICINE

Cardiac Rupture: Report of 12 Cases from the Southern Baptist Hospital, New Orleans, During a 10 Year Interval. S. H. McDonnieal Pr., M. Humbrecht and N. W. Voorhies. J. Louisiana M. Soc. **107:**171-177 (May) 1955 [New Orleans].

Of 1,315 consecutive autopsies performed at the Southern Baptist Hospital in New Orleans between 1944 and 1953, acute myocardial infarction was found as the cause of death in 114. Cardiac rupture had occurred in 12 of the 114 cases, an incidence of 10.5% of all acute infarcts, in which autopsy was performed. Of the 12 patients between the ages of 54 and 85 years with cardiac rupture, 8 were women and 4 were men. The higher relative incidence of spontaneous cardiac rupture, as compared to that of acute myocardial infarction in women, may be attributed to the lower incidence of coronary disease and the higher incidence of hypertension among women. In none of the patients was the diagnosis of cardiac rupture made before death, although it was suspected at the time of death in two. Cardiac rupture occurred within four days of the onset of the infarct in eight patients (66.7%), on the fifth day in one, and on the 12th and 14th days in one each; no history of the onset of the infarct was available in one patient. The time of rupture in the authors' patients followed the same pattern as that reported by other workers. Since most ruptures occur within the first week and nearly all within the first two weeks, and since the incidence of rupture is increased by unrestrained activity, the physician is justified in insisting on at least three weeks of complete rest. This would apply equally to the so-called small infarct, particularly when the blood pressure remains high after infarction. Only one of the 12 patients received anticoagulant therapy, and only a single dose of ethyl biscoumacetate (Tromexan) three hours before death. Consequently, no conclusions can be drawn from the authors' series concerning the possible effect of anticoagulants on cardiac rupture, but reports by other workers suggest that anticoagulants carry a definite risk in addition to the systemic effects of the drugs. The occurrence of cardiac tamponade, as well as the increased frequency of rupture, limits the usefulness of anticoagulants in the care of the patient with acute myocardial infarction.

The Effects of 1-Hydrazinophthalazine upon Coronary Hemodynamics and Myocardial Oxygen Metabolism in Essential Hypertension. G. G. Rowe, J. H. Huston, G. M. Maxwell and others. J. Clin. Invest. **34:**696-699 (May) 1955 [New York].

Six patients with essential hypertension were given 11 to 20 mg. of 1-hydrazinophthalazine (Hydralazine) hydrochloride, and five hypertensive patients serving as controls were given 1 cc. of sodium chloride solution. Various cardiac functions were determined before and after "treatment." In comparison with the results in the controls the hemodynamic changes that occurred after the administration of Hydralazine included an increase in heart rate, a fall in systemic blood pressure and peripheral arterial resistance, a decreased arterial and mixed venous carbon dioxide content, and a smaller arteriovenous carbon dioxide difference. Total body carbon dioxide production and oxygen consumption were unchanged, and the respiratory quotient was constant. Hydralazine produced an increase in coronary blood flow in five of the six patients to whom it was given, the overall increase being 34%. Simultaneously, with the decrease in perfusion pressure, the coronary vascular resistance was decreased 35%. The increased coronary blood flow was accompanied by a 27% decrease in the arterial-coronary sinus oxygen difference caused by an 81% increase in the coronary sinus oxygen content. The cardiac rate of oxygen consumption remained unchanged. Hydralazine thus decreases coronary vascular resistance to such a degree that an increase in flow occurs despite the reduced prefusion pressure. Simultaneously, as arteriovenous oxygen difference across the myocardium narrows, left ventricular oxygen consumption per 100 gm. is unchanged.

Some Observations on the Epidemiology of Lung Cancer. R. Fowler. M. J. Australia **1:**485-494 (April 2) 1955 [Sydney, Australia].

An isolated inquiry has been made in the last 10 years in order to compile and analyze data regarding patients with cancer at six public hospitals in Melbourne, Australia. A summary of this inquiry discloses that admissions for bronchial cancer have more than trebled in the last decade. Throughout the series the ratio of male to female patients has never been less than 4:1. At the same time the ratio of patients with bronchial cancer to all patients with cancer has increased from 1:38 in 1940 to 1941 to 1:15 in 1952 to 1953. Since the case fatality rate of lung cancer is practically 100%, it can be seen that, except for an indeterminate time lag between the onset of disease and death, the long-term trend of mortality may be used as a measure of the incidence of lung cancer. A synopsis of Australian mortality data for primary growths of the lung reveals a great increase in the number of deaths ascribed to cancer of the lung in the last 40 years. By 1950, physicians in Australia were writing "cancer of the lung" on death certificates about 27 times more often than in 1910. Statistical analysis of the Australian death rates appears to indicate that: (1) the frequency of occurrence of bronchial cancer has undergone a marked increase in the last 40-odd years; (2) the incidence of this disease has increased by a more or less constant percentage each year; and (3) the uniform pattern of increase has been slightly disturbed by irregular deviations from the "normal" upward trend, but there has been no evidence of epidemic cycles. Analysis of the sex-specific time sequences discloses that, although each sequence exhibits an exponential trend like the parent series, the gradient or rate of climb is much steeper for male than for female mortality rates. The increase is about 7.7% per annum in the case of men and 4.6% per annum in the case of women. A detailed analysis of the clinical features of 1,000 case histories illustrates the difficulties of early diagnosis and the limitations of ablative surgery in dealing with the disease. The evidence from Britain and the United States of America, which incriminates smoking as a lung cancer pathogen, is regarded as convincing. The smoking habits of Australians are thought to be consistent with the theory that habitual heavy smoking is similarly blameworthy in Australia. Miners of nickel, cobalt, and uranium ores appear to be subject to special hazards. This is of interest to Australia because uranium fields are about to be exploited.

Severe Upper Gastrointestinal Hemorrhage: Early Use of Diagnostic Technics. E. D. Palmer and N. M. Scott Jr. Connecticut M. J. **19:**368-372 (May) 1955 [New Haven, Conn.].

A vigorous diagnostic approach was adopted by the authors in 163 patients with severe upper gastrointestinal hemorrhage. As soon as the patient was admitted to the emergency room, blood was drawn for cross matching, and blood replacement begun and continued as the clinical course dictated. Ice-water lavage was carried out for a half hour with a large-caliber tube using several quarts of ice-water, and esophagoscopic examination was made as soon as the tube was withdrawn. The esopha-

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goscope was passed under direct vision rather than with the help of an obturator because of the importance of inspecting the hypopharynx on the way down. Gastroscopic examination immediately followed esophagoscopy, unless the latter showed the stomach to be refilling with blood, whereupon lavage was repeated first. Fluoroscopic examination immediately followed gastroscopy, even though the bleeding lesion had already been found. The details of diagnostic management varied to some extent from patient to patient, but in the 53 most recent cases all diagnostic studies were completed within 24 hours of hospitalization. The examinations that were performed during hemorrhage included esophagoscopy in 105 patients, gastroscopy in 136, and contrast fluoroscopy in 159. The initial emergency diagnostic studies permitted identification of the bleeding lesion in 136 (83%) of the patients. As a result of successful early diagnostic efforts, 29 patients were given emergency surgical treatment during or shortly after the acute bleeding episode. Of these 29 patients, 10 had duodenal ulcer, 8 gastric ulcer, 9 esophageal varices, and 2 hiatus hernia. In order to examine the effectiveness of this vigorous diagnostic approach, the 163 patients were compared with 212 control patients in whom no search was made for the bleeding site until at least seven days had passed since cessation of hemorrhage, except that permitted during emergency laparotomy in 25 patients. The initial working diagnosis proved to be correct in only 74 (35%) of the 212 patients. Emergency therapy proved optimum in 86% of the patients with vigorous diagnostic approach as compared to 55% of the patients with delayed diagnostic approach. The source of hemorrhage was not determined in 11% of those with vigorous diagnostic approach as compared to 15% in those with delayed diagnostic approach. There were 7 deaths from hemorrhage among the 163 patients, a mortality rate of 4%, as compared to 18 deaths from hemorrhage among the 212 patients, a mortality rate of 8%. Nothing was observed to suggest that the vigorous diagnostic approach aggravated hemorrhage or in any way compromised the patient's chance of survival. Early establishment of a precise diagnosis is important in clinical management whatever form treatment may take, but its value is most dramatically shown when an emergency operation is required. Little weight can be placed on a history of a previous diagnosis in guessing at the cause of a current hemorrhage. This mainstay of the conservative diagnostic approach proved wholly unreliable in the authors' study. Direct, on-the-spot visualization of the lesion responsible for the severe upper gastrointestinal hemorrhage made it possible to direct treatment specifically. A significant reduction in mortality was achieved.

Clinical and Pathologic Difference Between Regional Enteritis and Ulcerative Colitis. E. J. Lowell Jr. J. Internat. Coll. Surgeons **23:**513-516 (April) 1955 [Chicago].

Judged on the basis of general hospital admission, ulcerative colitis is from 30 to 40 times as common as is regional enteritis, and is more often encountered in women than in men. In contrast, 56% of regional enteritis occurs in men. Regional enteritis is an inflammatory disease of the small intestine characterized by abdominal cramps, diarrhea, fever, anemia, loss of weight, and anorectal complications. Ulcerative colitis is also an inflammatory disease, occurring for the most part in the large intestine characterized by bloody diarrhea, abdominal cramps, loss of weight, and anorectal complications. Enteric and abdominal fistulas are more common in patients with regional enteritis, while anorectal infections are more commonly associated with ulcerative colitis. Three prominent signs in patients with regional enteritis are a tender, fixed mass in the lower part of the abdomen; irregular fever; and negative results from sigmoidoscopic examination. Two prominent signs associated with ulcerative colitis are abdominal tenderness over the colon and positive results from sigmoidoscopic study. When present, diagnostic roentgenographic signs of regional enteritis consist of the "string sign," a distorted, narrowed, irregular lumen with loss of the mucosal pattern. In patients with ulcerative colitis, the diagnostic roentgenographic signs, when present, consist of the "lead pipe" colon, a shortened, smooth, rigid colon with loss of haustral markings. Carcinoma of the colon develops in up to 14% of patients with ulcerative colitis, whereas it virtually never occurs in those with regional enteritis. The pathological aspects of the two diseases differ even more decidedly than do the clinical aspects. The small intestine in a patient with regional enteritis is reddish-purple to grey, thickened, and suggestive of a rubber hose. The mesentery is stiff and edematous. White granular nodules may be visible, and enlarged lymph nodes palpable, in the mesentery. The opened specimen of small intestine appears cobbled, congested, and dusky red. On closer inspection longitudinal ulcerations are seen. In contrast, the colon in ulcerative colitis may show little external abnormality. Redness or spasticity may be the only external manifestation at operation. The mesentery may be normal, with few enlarged lymph nodes, unless the disease is advanced or complicated by carcinomatous change. The most striking change will be noted on examining the colonic mucosa. The entire lining often appears diffusely congested, ulcerated, and inflamed. With respect to microscopic pathological changes, the chief change attributable to regional enteritis is progressive sclerosing granulomatous lymphangitis affecting all layers of the small intestine, the lymph nodes, and the mesentery. In contrast, ulcerative colitis is restricted mainly to the colonic mucosa and submucosa.

SURGERY

Excision of an Aortic Aneurysm Adjacent to the Celiac and Superior Mesenteric Arteries: Report of a Successful Case. H. D. Sirak. Ohio M. J. **51:**344-346 (April) 1955 [Columbus, Ohio].

Sirak reports the case of a man, aged 43, with a diagnosis of aortic aneurysm. The patients had been suffering from epigastric pain for eight years. At the age of 15 he had had a penile chancre, which he had treated with a salve. He had not received any other antisyphilitic treatment. Operation was performed under endotracheal ether-oxygen. Because the aneurysm was located in the lower part of the thorax and extended beneath the left diaphragm, the incision was placed in the left seventh interspace starting at the posterior axillary line and carried down onto the abdomen as a left paramedian. The aneurysm was approximately 12 cm. in diameter. It was joined to the left lateral wall of the aorta at the same level as the origins of the superior mesenteric and celiac arteries by a neck 5 cm. wide. The neck extended to a point that was 1 cm. above the left renal artery. The aorta in the immediate area of these vessels was not involved. The course of the operation, in which the syphilitic aortic aneurysm situated at the level of the celiac axis and superior mesenteric artery was successfully excised and lateral aortorrhaphy performed, is described. The patient withstood total occlusion of the aorta at the level of the ninth thoracic vertebra for 41 minutes without ill effect. This attests to the adequacy of the collateral circulation for the maintenance of the liver and the other viscera for this period of time. The results obtained establish surgical excision as feasible and practical in the extirpation of this otherwise fatal lesion. The author feels that if any attempt had been made to free-up and clamp the neck of the aneurysm in order to avoid cross clamping the aorta, the aneurysm would have been torn, resulting in massive hemorrhage. The evidence for this statement was amply demonstrated as the aneurysmal sac was being detached from the parietes after repair of the aorta had been successfully concluded. Whereas the anterior wall appeared substantial, the posterior wall of the neck and sac was tissue-paper thin and was very adherent to the posterior chest wall. This is explained by the fact that aneurysms in this area are "blowouts" with walls composed primarily of adventitia that readily gives way laterally beneath the parietal pleura. The parietes, because of this intimate relationship, become a part of the aneurysm's posterior wall. In contradistinction, aneurysms of the ascending aorta and aortic arch area do not have this relationship and are amenable to clamping at their necks.

Bilateral Adrenalectomy and Oophorectomy in the Treatment of Recurrent Carcinoma of the Breast. J. P. Eddy. Rhode Island M. J. **38:**207-209 (April) 1955 [Providence, R. I.].

Total adrenalectomy, with or without concomitant oophorectomy was performed by Eddy on eight patients with advanced breast cancer. Seven were operated upon prior to January, 1954, and have a sufficiently long follow-up to make the analysis

significant. All of these patients were selected for treatment on the basis of widespread metastatic disease, some had previously undergone x-ray therapy and hormonal therapy, or both. The operation required about two hours. The adrenals were removed with the patient in the posterolateral position, after resection of the 12th rib. The ovaries were removed by turning the patient from one side to the other when necessary. The severely ill patients withstand the procedure remarkably well. There was no operative death. Two of the seven patients are now dead and showed no significant response to the treatment. Four have improved markedly and are leading essentially normal lives. One has improved moderately, leading a somewhat restricted but still painless existence. The average patient who can withstand a major surgical procedure can also withstand bilateral oophorectomy and adrenalectomy. In addition to the usual preoperative preparation for major surgery, such a patient is given 50 mg. of cortisone intramuscularly every six hours, the day before operation, including 5 mg. of desoxycorticosterone acetate intramuscularly, and 5 gm. of salt is added to the diet. The morning of the operation another 50 mg. of cortisone and 5 mg. of desoxycorticosterone acetate are administered. During the operative procedure 1,000 cc. of blood is given, and if necessary, the blood pressure is supported by injection of norepinephrine. The first 24 hours postoperatively the patient receives 50 mg. of cortisone intramuscularly every six hours, and one injection of 5 mg. of desoxycorticosterone acetate. During the second 24 hours after operation 50 mg. of cortisone is given intramuscularly every 8 hours with 5 mg. of desoxycorticosterone acetate. On the third postoperative day 50 mg. of cortisone is given every 12 hours with 3 mg. of desoxycorticosterone. On the fourth day cortisone may be given by mouth, 25 mg. every six hours, and thereafter 3 mg. of desoxycorticosterone acetate every other day. Cortisone therapy is reduced to a basal dose of 25 mg. twice a day. Salt is added to the diet (approximately 3 gm. daily). These patients are instructed to consult a physician in case of any sudden unexpected stress that may change their metabolic requirements. Malaise, weakness, orthostatic hypotension, sweating, and tachycardia may all suggest impending adrenal crisis and should be promptly recognized and treated.

Plasma Cell Mastitis: A Review and Report of a Case. B. E. Ferrara. Am. Surgeon **21**:376-384 (April) 1955 [Atlanta, Ga.].

Plasma cell mastitis is a rare condition of the female breast which simulates mammary cancer. Ferrara reports a case of a woman, aged 27, who complained of a swollen right breast. She had been delivered of a normal child three weeks before. She did not nurse the baby. Several days following the birth of her child, soreness and redness of the skin of the breast was noted. She was seen by another physician who treated her with local applications and daily penicillin injections for several days. The inflammation partially subsided, but there remained a firm movable mass, 3.5 cm. in diameter, in the lower medial quadrant of the right breast, with minimal local heat and redness of the overlying skin. The mass was not painful, but seemed to be adherent to the chest wall. No axillary nor supraclavicular nodes were palpable. The mass was excised. The diagnosis of plasma cell mastitis was made after study of the specimen. Adair called attention to this condition with his publication of 10 cases in 1933. A total of 76 reported cases are tabulated. Two phases of the disease have been described by Adair. 1. The acute phase is characterized by signs of inflammation in the breast that subsides after several weeks to a month. The symptoms may vary in intensity; inflammation may be so mild as to be forgotten by the patient. There may be chills and fever. The breast may be tender, swollen, and reddened. A creamy nipple discharge is frequent. Usually more than one quadrant of the breast is involved. The axillary nodes are usually enlarged. As the inflammatory reaction subsides, the breast becomes less red in color, less swollen, somewhat nodular, and with better localization of the process. This latter occurrence has been referred to as the subacute phase. 2. In the residual phase all signs of inflammation have subsided. A discrete, firm, well-defined, deep-seated mass is present in the breast. Skin fixation may be present, and fixation to the chest wall may occur. The mass may be painful. Nipple discharge, which usually is creamy and thick (and may be bloody), is common. Nipple retraction is frequent. The axillary nodes frequently are palpable. The clinical picture is that of carcinoma. The residual mass may be present for several years before excision, or it may completely disappear without treatment. It is a disease of parous nonlactating women. There is general agreement that the lesion is inflammatory. Most observers believe that the cause is chemical rather than bacterial. Adair described the pathological characteristics: (1) the presence of plasma cells in the breast occurring in broad sheets and infiltrating ducts, duct walls, and interstitial tissues; (2) the proliferation of duct epithelium piling up 6 to 10 rows deep; and (3) the formation of giant cells by the heaped-up lining cells. The histological appearance may resemble comedocarcinoma due to the proliferation of duct epithelium. It also resembles tuberculosis, but there is no caseation.

Bronchial Carcinoma: Survey of 317 Patients. J. R. Bignall. Lancet **1**:786-789 (April 16) 1955 [London, England].

One of the two hospitals in which these studies were made specializes in diseases of the chest and the other in cancer. Many patients are first seen elsewhere and are sent to these hospitals for bronchoscopy, surgical treatment, radiotherapy, or a second opinion. During 1951, 317 patients with bronchial carcinoma attended the hospitals. The diagnosis was based on histological evidence in 199 (62%) patients. One-fifth of the patients had had symptoms or signs for less than two months, but half had had them for more than four months, and a tenth for more than a year. Almost a third had clinical or radiographic evidence of metastases when first examined. Even when symptoms had been present for less than a month, 1 in 20 had metastases; and the proportion rose to a half in those with symptoms of five months' duration. Thoracotomy was precluded in 40% because of intrathoracic or extrathoracic spread; and in a third because of the position of the growth, deficient respiratory function, gross wasting, refusal to be investigated, or incorrect diagnosis. The chest was explored in a quarter, but in about a third of these the tumor could not be removed. Resection was possible in only 18% of the 317 patients. A little over a third received radiotherapy. A third survived a year from the first attendance and a sixth two years. A quarter were alive two years after the start of their illness; 31 of these 77 patients had had the tumor removed. The manner of dying was recorded in 128 patients. Of 25 who died after resection, 10 had clinically manifest cerebral metastases, compared with 16 of 103 who had not had the tumor removed. Bignall believes that the course of the disease in these selected patients, unfavorable as it is, is better in some respects than that of patients with lung cancers generally. Many old people may never reach chest clinics or special hospitals; and some die with metastases in the brain or elsewhere before the existence of the primary tumor is known. In 18% of the present group it was possible to remove the cancer. If the tumor is not removed few patients live longer than two years from the first manifestation of the disease. By the time a bronchial carcinoma causes symptoms obtrusive enough for the patient to seek advice the tumor has often spread beyond the lung. Even with the most efficient medical service and a population conditioned by propaganda to a delicate balance between hypochondriasis and ignorance, it seems unlikely that the proportion of those with eradicable tumors could be greatly increased. Even detection by mass radiography is unlikely to increase it dramatically.

Kartagener's Syndrome: Surgical Treatment: Lobectomy and Segmentectomy. J. A. Taiana, A. J. Villegas and E. Schieppati. Rev. Asoc. méd. argent. **48**:565-568 (Dec. 15-30) 1954 (In Spanish) [Buenos Aires, Argentina].

Kartagener's triad of congenital malformations of all the viscera and the structures of the respiratory tract is rare. It consists of situs inversus totalis, bronchiectasis, and rhinopharyngosinusopathy. The case reported by the authors is the ninth in the Argentinean literature. The patient had had poor general

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health, chronic bronchorrhea, and other respiratory symptoms since birth. At the age of 21, the predominant symptoms were fatigability and acute mucopurulent bronchorrhea with a daily sputum volume of 200 cc. Clinical, electrocardiographic and roentgenographic examinations, and bronchoscopy showed situs inversus totalis and large cylindrical and saccular bronchiectasis in the lower lobe of the left lung, which was located in the right hemithorax, and in the lingula pulmonis and the anterior segment of the upper lobe of the same lung. An operation was planned. Preoperative treatment, consisting of a hygienic diet, antibiotics, aerosols, vitamins, liver and iron therapy, postural and gymnastic exercises, and treatment of the rhinopharyngeal disease by a specialist was given for seven months, at the end of which time the patient's general health was greatly improved, and he had gained 17 kg. (37.5 lb.). In this period his sputum volume dropped to 50 cc. a day. A right thoracotomy, removal of the lower lobe of the left lung, lingulectomy, and removal of the anterior segment of the upper lobe of the left lung were performed. The postoperative course was uneventful. The patient continued to gain weight, his general health improved, and the bronchorrhea was almost completely controlled. An excellent readjustment of the thorax with complete pulmonary reexpansion was observed in the roentgenograms.

NEUROLOGY & PSYCHIATRY

After-Examination Following Poliomyelitis Epidemic in Buskerud in 1951. L. Stang. Tidsskr. norske lægefor. **75:**265-267 (April 15) 1955 (In Norwegian) [Oslo, Norway].

On follow-up examination of 224 patients treated during the 1951 poliomyelitis epidemic 116, or 51.8%, were able to work. If patients able to do light work are included, the figure is 162, or 72.3%. Thirty-eight patients, or 17%, were found to be severely disabled, and 24, or 10.7%, were dead. Forty-five, or about 28%, of the paralyzed group were still under treatment. It was concluded that those with the bulbar and encephalitic types have a relatively good prognosis if they can be brought through the acute phase of the disease. Here active therapy with early tracheotomy and oxygen has its greatest value. Of the 12 patients in this group, seven escaped noteworthy disability and 5 died. Paralyses occurred in 72.3% of the patients, spinal paralysis dominating. Twenty orthopedic operations were performed on 17 patients.

Course of Myasthenia After Denervation of the Carotid Sinus. H. G. Mertens. Nervenarzt **26:**150-154 (April 20) 1955 (In German) [Berlin, Germany].

The first of the four patients with myasthenia presented by Mertens was a 46-year-old woman, in whom muscular weakness had been increasing gradually for 16 years, so that she had ptosis, could walk only a few steps, and could not dress herself. Bilateral exclusion of the glomus caroticus was carried out by infiltration with procaine hydrochloride. A noticeable increase in muscular power resulted, which persisted for several hours. After several repetitions of this test, surgical denervation of carotid sinus was performed on one side. This was followed by marked improvement, which lasted for only about eight days, except for improvement in chewing, which persisted longer. Three weeks after the first operation denervation of the carotid sinus was performed on the other side. This again was followed by great improvement in muscular power, which persisted for only 8 to 14 days. At the end of eight weeks the condition was worse than before the operation and the patient was practically helpless, even if she took 10 tablets of prostigmine. After that there was gradual improvement, over a period of about six months, so that the patient was again able to do her housework and even dance. This improvement had persisted for one year when the patient was last seen. Similarly favorable results were obtained in a 47-year-old man, in whom signs of myasthenia had been present for 10 years, and who recently had become bed-fast. Definite improvement was evident after the first and second operation, and this improvement gradually progressed over a period of six months, the patient being able to take long walks and requiring only one to three tablets daily. Nine months after the operation progressive exacerbation set in again, so that the patient's condition was hardly any better than before the operation. Denervation of the carotid sinus was performed also in two young women, in whom signs of myasthenia had been present for only one and three years, respectively, but improvement lasted only a few days. The author was unable to obtain results as favorable as those of other investigators, who resorted to this method on the basis of animal experiments.

Treatment of Temporal-Lobe Epilepsy by Temporal Lobectomy: A Survey of Findings and Results. M. A. Falconer, D. Hill, A. Meyer and others. Lancet **1:**827-835 (April 23) 1955 [London, England].

Epilepsy of temporal lobe origin may not be controlled by anticonvulsant drugs. Sometimes it is caused by a tumor, angioma, or cyst, and it may cease when this is excised. More often, however, the underlying lesion is microscopic in size and hard to detect. The clinical pattern of the seizures and their association with epileptic electroencephalographic discharges in one or both temporal lobes may be the only guides. In the three years preceding March, 1954, the authors treated 31 patients, with intractable epilepsy of this type, by resection of the responsible temporal lobe. Since one of the 31 patients died shortly after the operation, 30 cases are reviewed. Twenty-three came from the epileptic practice of a psychiatric hospital and the remainder from a general hospital. Hence it is not surprising that all but one of them also had a definite personality disorder. The sexes were equally represented. The ages, at the time of operation, varied from 2½ to 56 years. Each patient exhibited a variety of attacks. Amnesic seizures without a major convulsion but associated with auras of an epigastric, olfactory, gustatory, cephalic, or psychical character (psychomotor attacks) occurred in all. Many patients had also noticed that these auras sometimes appeared without any dazedness or amnesia. Grand mal seizures had occurred in 12 patients several times, in 9 they could be excluded, and in the remaining 9 they had either been very occasional or else the history was not sufficiently comprehensive to exclude them. The associated personality disturbances varied greatly. A characteristic feature was a history of emotional disorder and of poor adaptation to social demands, work, and sexual life of long duration. Most patients had been under medical supervision for many years, and their attacks had continued in spite of long and adequate trials of various anticonvulsants. Before operation, all patients, besides having a comprehensive psychiatric assessment, were subjected to detailed neurological, electroencephalographic, and neuroradiological examinations. Twelve of the 30 patients were freed from their epileptic attacks, and in 14 others the epilepsy was greatly improved. Twenty were benefited as regards their personality changes. The authors believe that the high frequency with which pathological changes have been found in the resected temporal lobes and the high rate with which relief or improvement has followed operation suggest that the lesions observed and the symptoms relieved were related.

Histamine Therapy for Schizophrenia: A Follow-Up Study. A. Hoffer and S. Parsons. Canad. M. A. J. **72:**352-355 (March 1) 1955 [Toronto, Canada].

Histamine therapy, in the form recommended by Sackler and others, was used in 12 schizophrenic patients in a psychiatric ward of the Regina, Sask., General Hospital. Nine of the 12 patients were improved on discharge, but although only 4 retained their improvement at follow-up, all 12 were living in the community, and if the only criteria of improvement were discharge from hospital, a perfect treatment response might be claimed. Four patients attained a satisfactory adjustment in interpersonal relationships, social activities, and vocation, and they are better than they were before their illness. These four were less than 25 years old, but of the eight who did not improve only two were under age 25.

GYNECOLOGY & OBSTETRICS

Treatment of 850 Cases of Simple Uterine Hemorrhage by Intra-Uterine Application of Radium. W. Barr and A. A. Charteris. J. Obst. & Gynaec. Brit. Emp. **62:**187-194 (April) 1955 [London, England].

Excessive functional uterine bleeding, especially when it occurs about the time of the menopause, was formerly often treated by inducing an artificial menopause with the aid of radium. The results obtained were satisfactory as regards control of the hemorrhage, but some criticized the method on the grounds that it produces unusually severe menopausal symptoms, local tissue necrosis, and even an abnormal incidence of uterine neoplasms. The results obtained at the Western Infirmary of Glasgow during the years 1926 to 1949, when 850 patients were treated by intrauterine application of radium, were analyzed. The primary treatment produced satisfactory results in 774 patients, while 56 required further treatment. Menstruation was reestablished in 10 women, each of whom belonged to a younger age group than would now be treated, and 22 patients were lost from the follow-up. There were no deaths and few postoperative complications. There was no evidence that the menopausal symptoms were unusually severe or greatly different from what might be expected in the natural menopause. The age of the patient seems to play a part, in that a higher incidence of severe symptoms occurred in patients under 42 years of age. This suggested that 42 is the lowest age at which the artificial menopause should be induced. Four patients developed some form of neoplasm at a later date, but only two involved the uterus; one was a cervical carcinoma, which the authors do not regard as a sequel of the radium treatment. This leaves only one patient in the series who had adenocarcinoma of body of uterus and this seems a very low incidence in 850 cases. Lately a second patient was found in whom carcinoma of the body of the uterus developed. The authors do not regard this alleged hazard as a contraindication to radium treatment.

The Natural History of Pelvic Tuberculosis. T. Barns. J. Obst. & Gynaec. Brit. Emp. **62:**162-175 (April) 1955 [London, England].

To ascertain the mode of invasion of the genital tract, studies were made on 107 women with genital tuberculosis attending the gynecologic department at the Newcastle General Hospital in the past 11 years. Laparotomy had been performed in 55 in this department, providing an opportunity to obtain information concerning the presence of abdominal tuberculosis. In a further 25 patients a laparotomy had been performed before coming under observation. Curettage was performed in 83 patients. Histological examination, biological examination, and direct culture were carried out in all cases, and a culture was also obtained from the spleen of the inoculated guinea pig in 27 cases. Eighty-seven patients were radiologically examined; in many of the patients former chest films were obtained from other hospitals. The most significant information, however, was obtained through a careful history. Seventy-three per cent of the patients had evidence of other forms of tuberculosis; pleural effusion and tuberculous peritonitis each occurring in about 33% of the patients. In only eight patients were these coexisting lesions still in an active state. The primary site of tuberculous infection was located in 57 patients; this was found to have been in the lung in 46; in the glands of the neck in 5; in the abdomen in 5; and on the skin in one. This suggests that invasion of the pelvis had taken place by the hematogenous route in at least 52 of these patients. Evidence of the site of the primary lesion was available in 20 patients who had had tuberculous peritonitis. In only one out of every four of these patients was this site within the abdomen. It would therefore appear probable that peritonitis had arisen in at least 75% of these patients as the result of spread of infected material from a preexisting tuberculous focus in the pelvis. The human strain of tubercle bacillus was found in all patients from whom a successful culture was obtained. The date of primary infection was identified in 37 patients. In some, invasion of the pelvis occurred within a few months after the primary infection, and in more than half of the patients there was evidence that pelvic infection had taken place within three years of the primary infection. Dissemination to the pelvis probably occurs in the period of activity of primary tuberculous lesions. Genital tuberculosis was shown to be a particular risk accompanying primary tuberculosis during adolescence. This provides additional grounds for urging that girls be rendered tuberculin positive by BCG inoculation before reaching this age.

A Study of the Effects of Dihydroergotamine on the Intact Human Uterus: Part I—"Sympatholytic" Properties. W. J. Garrett. J. Obst. & Gynaec. Brit. Emp. **62:**145-149 (April) 1955; **Part II—"Oxytocic" Properties.** M. P. Embrey and W. J. Garrett. ibid. **62:**150-154 (April) 1955. [London, England].

Excess endogenous epinephrine and over-action of the uterine sympathetic nerves have been regarded as causal factors of incoordinate uterine action, and so dihydroergotamine has held favor with some workers, as it is said to possess powerful epinephrine-blocking properties yet to be devoid of the oxytocic activity characteristic of the ergot series as a whole—an activity that is potentially dangerous in labor because of the unpredictable spasm that it may produce. A study of the history of dihydroergotamine shows that at its introduction to clinical practice it was hailed as a boon in the treatment of uterine inertia. Later, with further experience, a note of caution was sounded. Of the two reports presented here, that by Garrett is concerned with its "sympatholytic" properties. He demonstrates that in the maximal dosage permissible in the human subject, dihydroergotamine fails to impede the normal response of the body of the uterus to the adrenal medullary hormones. After intramuscular injection of 0.25 mg. of dihydroergotamine both epinephrine and norepinephrine still have their characteristic effects on the uterus in late pregnancy and labor; in the presence of 0.1 mg. of dihydroergotamine per half hour by slow intravenous infusion uterine contractions are still inhibited by epinephrine. From the human subject in late pregnancy and labor, direct tocographic evidence has been produced showing that dihydroergotamine fails to block the actions both of epinephrine and norepinephrine in the doses recommended by its advocates. Investigating the "oxytocic" properties of dihydroergotamine Embrey and Garrett present tocographic evidence from 26 healthy puerperal patients that dihydroergotamine is a powerful, though somewhat unreliable, oxytocic agent. The dose of dihydroergotamine, if used as an oxytocic in the third stage of labor, would be 0.75 to 1 mg. by intravenous injection, and at least twice as much by intramuscular injection; but for this use it does not appear to have any advantage over the better-established alkaloids. The strong oxytocic properties of dihydroergotamine make it a potentially dangerous drug for the treatment of incoordinate uterine action in labor.

Question of Interruption of Pregnancy in Retinopathia Gravidarum. A. Heydenreich. Zentralbl. Gynäk. **77:**1-14 (No. 1) 1955 (In German) [Leipzig, Germany].

Many investigators regard the retinopathy of pregnancy as an indication for therapeutic abortion, the only problem to be decided being when it should be performed. Whereas some advocate immediate interruption of pregnancy, others advise that therapy of the underlying nephropathy or preeclampsia should be tried first. Heydenreich believes that repeated follow-up examinations, if possible for several years after the retinopathy, should supply the answer to this problem. At his clinic a typical albuminuric retinopathy of pregnancy with papillary edema, hemorrhages, foci of exudates, and vascular changes was detected in 17 of 129 women with toxicosis of pregnancy (13%). Three of these patients had eclampsia and 14 had preeclampsia. In contradistinction to these organic vascular and retinal changes, functional changes, in the form of spastic irregularities of the caliber of the retinal vessels and mild papillary edema, were observed in 35% of the women with pregnancy toxicosis. Two factors are of decisive importance for the development of eyeground changes in toxicoses of pregnancy: the height of the blood pressure and the duration of the toxicosis. The author was able to make follow-up examinations one to six years after delivery in 15 of the 17 women with retinopathy. He found that the widely accepted opinion that retinopathy of pregnancy is no threat to the life of the woman is erroneous. On the basis of eyeground changes, blood pressure, and functional tests of the

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kidney, 60% of the women showed signs of a malignant nephrosclerosis. Interruption of pregnancy or induction of labor is indicated in women with retinopathy for the following reasons. 1. The prospects of restoration to normal decrease as the eyeground changes increase. 2. The various therapeutic measures instituted, even when the woman is hospitalized for several weeks, never improved the preeclampsia or renal changes. On the contrary, the pregnant organism often resorted to self-defense, in that premature birth resulted spontaneously. 3. A viable infant is more often attained by prompt interruption of pregnancy than by prolonged waiting. Sterilization is not necessary, since even rather old primiparas with a severe retinopathy pass through a second pregnancy without any signs of toxicosis or retinopathy. In those women in whom eclampsia or preeclampsia was not complicated by eyeground changes, or who showed only functional changes in the retinal vessels, follow-up examinations several years later revealed complete recovery, that is, the prognosis was favorable in these patients.

Physical and Psychic Preparation of Women for Childbirth. F. Lepage and G. Langevin-Droguet. Presse méd. **63:**549-551 (April 16) 1955 (In French) [Paris, France].

The authors' results with 40 women prepared for childbirth in weekly classes during pregnancy compare favorably with those obtained in 40 unprepared women, with regard to time of expulsion of the fetus, flexibility of the perineum, use of forceps, and perineal injury. The method consists of muscular and breathing exercises, massaging to instill relaxation, instruction regarding the process of childbirth, and discussion of psychic problems. This procedure should never be termed "childbirth without pain." Painful contractions are normal and unavoidable in labor, but their effect can be lessened by proper preparation of the parturient. Fear can be eliminated or minimized, and maximal cooperation can be secured. Better results are obtained as treatment is started earlier. To safeguard the reputation of the method, it should not be tried in unselected patients. Tuberculosis, heart disease, hypertension, albuminuria, diabetes, toxic goiter, adnexitis, fibroma, and habitual abortion are contraindications.

PEDIATRICS

Therapeutic Misuse of Salicylate Compounds with Resulting Intoxication: A Report of Two Cases in Infancy. J. F. Keith Jr. North Carolina M. J. **16:**141-144 (April) 1955 [Winston-Salem, N. C.].

The first of the two children was a 5-month-old girl, who was referred to the hospital by her physician because of abnormal respirations and cyanosis. Three weeks prior to admission the infant had had acute coryza. At that time she was treated, without the advice of a physician, with aspirin, Castoria, and "fever and cold medicine" obtained at a local drug store. The child improved temporarily, but five days later the symptoms recurred. The "fever and cold medicine" was continued. Five days prior to admission the baby began to "feel hot," became irritable, and ate poorly. Three days before admission diarrhea developed, and was treated with penicillin. She was given 80 mg. aspirin and tablets for the fever, and the mother continued to give the "fever and cold medicine." On the day of admission the infant had periods of collapse alternating with periods of extreme irritability. She received 10 or more of the aspirin tablets in the 24 hours preceding admission, in addition to the "fever and cold medicine." She was seen by the family physician four hours prior to her hospitalization. At that time she was comatose, exhibited marked hyperpnea, and was cyanotic. A tentative diagnosis of salicylate intoxication was made, before laboratory data were obtained, and treatment with oxygen and parenterally administered fluid was started. Twelve hours after admission the infant suddenly had a generalized clonic convulsion and became extremely cyanotic. She was treated with sodium phenobarbital and calcium gluconate. Within five minutes the convulsion was relieved and the color improved. Because of continued diarrhea, 350 cc. of Ringer's solution and 350 cc. of 5% dextrose in water were given intravenously. Clear fluids, offered frequently and in small amounts by mouth, were taken eagerly. In 72 hours the diarrhea abated, there was a marked decrease in the hyperpnea, and the urine was negative for acetone. At the time of discharge, on the sixth hospital day, physical examination was within normal limits. During the five days prior to admission the infant had received 75 mg. per pound per day of aspirin, in addition to what had been given over the preceeding three weeks. The second patient was a girl, aged 23 months, whose mother had been giving her one or two aspirin tablets daily since early infancy, "because they seemed to make her quieter." Nothing was known of the amount given in the days immediately prior to the admission, but a fairly large amount was given because of the child's irritability, in the misconception that aspirin has a sedative effect. Keith believes that while idiosyncrasies to salicylate do occur, the type of salicylism most frequently seen in children is a true intoxication. These cases usually represent the injudicious use of aspirin therapeutically in infants and toddlers. Occasionally, intoxication occurs in the toddler group as a result of the accidental ingestion of oil of wintergreen, which has a methyl salicylate concentration of 98%, 1 cc. of this being equivalent to 0.5 gm. of aspirin.

Decompression Treatment of Whooping-Cough: A Clinical Survey of 903 Cases. H. S. Banks. Brit. M. J. **1:**1052-1055 (April 30) 1955 [London, England].

During the last five and a half years, 903 patients with whooping cough were treated by low air pressures in a decompression chamber at the Park Hospital in London, England. The selected patients, up to six or eight at a time, went into the chamber accompanied by a nurse, ward orderly, or the parent in the case of some infants or a young frightened child. A telephone connected the occupants of the chamber with the porter-operator, who watched them through a porthole window during the whole course of the treatment. The pressure of air in the chamber was reduced progressively for about 20 minutes until the equivalent of an altitude of 12,000 ft. (3,660 meters) was reached. This low pressure was maintained for 45 minutes and then gradually increased during the 20 to 25 minutes "descent." The treatment thus lasted about 90 minutes. Some pain in the ears and deafness were commonly experienced during the "descent" and for a short time thereafter. Of the 903 patients, the results could be assessed in only 782, 63 of whom were less than one year of age, 454 were between the ages of 1 and 4, 244 between the ages of 5 and 9, 7 between the ages of 10 and 15, and 14 were aged 15 or over. Pronounced and rapid improvement in four to seven days with virtual cessation of the paroxysmal cough occurred in 205 patients (28.2%), and slower but probably significant improvement in 7 to 10 days occurred in 248 patients (34.1%), while 274 patients (37.7%) were therapeutic failures. A particularly valuable sequel to the treatment in many patients was the relief of vomiting; among the 427 children who were vomiting food more than once daily just before treatment, the vomiting stopped fairly abruptly in 246 (57.7%), was reduced in an additional 86 (20%), and was unrelieved in 95 (22.3%). Results in relation to the age of the patients suggested that children in the age group between 5 and 9 years may be benefited most by the decompression treatment, while results in infants and adults may not be quite so good as in children between the ages of 1 and 9 years. Twenty-four patients received a second decompression treatment, and although the figures are small they suggest that a second treatment did not often yield good results when the first treatment failed, except, perhaps, when the first treatment was given too early, i. e., before two and a half weeks of the disease. Decompression treatment is harmful to the acutely ill patients with pyrexia, cyanosis, or appreciable atelectasis. The results reported are based on careful selection of cases and combined assessment by parents and physicians. An adequately controlled experiment has not yet been done but should be attempted when opportunity offers. The mechanism of the action of decompression in whooping cough has not been elucidated. Further trials should preferably include biochemical studies.

New Therapy of Scoliotic Postures in Children. J.-B. Baron, A. Cabau and N. Cabau. Presse méd. **63:**574 (April 20) 1955 (In French) [Paris, France].

Scoliosis in nine girls was corrected or improved by the wearing of prismatic lenses to correct heterophoria. Each patient had scoliotic posture, exophoria, lateral inclination of the head, and a lateral deviation on walking. The correction of the ocular disturbance by means of prismatic lenses immediately caused replacement of the sagittal axis perpendicular to the horizontal. This was accompanied by replacement of the sagittal axis of the head in relation to the vertical, raising of the dropped shoulder, and equalization of the brachiocephalic triangles. This phenomenon demonstrates the existence of synergy between the oculomotor muscles and the paravertebral muscles. It also offers a simple method for the correction of scoliosis, which can be prolonged indefinitely.

Effect of Administration of Gluten, Starch, and Fat on Children with Celiac Disease: Clinical and Experimental Investigations: Preliminary Report. C. Hansted. Ugesk. læger **117:**481-493 (April 21) 1955 (In Danish) [Copenhagen, Denmark].

The author confirmed the observation that gluten from wheat, rye, and oats is harmful for children with celiac disease, while wheat starch, corn meal, rice flour, buckwheat, peas, beans, potatoes, various vegetables, meat, and fish are well borne. The patient's sensitivity to gluten depends on the kind and amount of fat in the diet. The sensitivity is greatest with a high fat content and greater with milk fat than with olive oil, which consists mainly of triglycerides with unsaturated fatty acids. The clinical symptoms on a gluten-free but high fat diet suggest that fat alone may to some degree unfavorably affect children with celiac disease. The gluten sensitivity is the same in a diet free from starch as in a diet rich in starch.

OPHTHALMOLOGY

Intravenous Treatment of Optic Neuritis: Comparison of Corticotropin and Typhoid Bacilli. P. Kazdan and R. J. Kennedy. A. M. A. Arch. Ophth. **53:**700-701 (May) 1955 [Chicago].

Two groups of patients with optic neuritis who, at the time of treatment, were not thought to have a demyelinating disease were treated. One group of 11 patients was treated with intravenous injections of killed typhoid bacilli and the other group of 11 patients with intravenously administered corticotropin. There was no case of bilateral optic neuritis in the group treated with corticotropin; however, there were two such cases in the group treated with intravenous typhoid bacilli. One patient treated with corticotropin had a relapse five weeks after the last treatment. He was given a second course of 10 daily doses of intravenously injected corticotropin, followed by a tapering off with 25 mg. of oral cortisone four times a day for two weeks. A 13-month follow-up after the second course of treatment revealed no recurrence. Comparison of the results obtained from these two methods of treatment showed no superiority of one method over the other, especially as regards visual acuity.

New Theories of Vascular Disease, with Special Reference to the Syndrome of Polycythemia in Ocular Pathology. H. L. Birge. Am. J. Ophth. **39:**362-369 (March) 1955 [Chicago].

The syndrome of polycythemia, including not only the rare polycythemia vera but also the common secondary types, has yet to be placed in its proper position as a cause of many vascular problems. Many ocular hemorrhages can be avoided by normalizing blood volume, and many vascular accidents can be prevented by learning to recognize the syndrome of polycythemia. If it is not recognized before ocular surgery, hemorrhage, hyphema, thrombosis, or anesthetic difficulties are likely to ensue. Polycythemia occurs more often in private than in clinic practice. It is most frequent in men between 50 and 60 years of age. Birge illustrates the importance of blood volume studies for ophthalmologic surgery on the basis of case histories. Blood-volume estimation should be routine in all cases in which the hematocrit report shows any abnormality whatsoever. Thrombosis is so common in patients with polycythemia that, when the ophthalmologist sees engorged, cyanotic retinal veins, he is justified in obtaining a hematocrit and, if the values are above 44 in females or 47 in males, he should order a blood-volume determination. This practice will prevent many vascular accidents. When middle-aged persons have polycythemia due to dietary excesses, the simplest form of treatment is the proper diet. When treatment for the polycythemia syndrome must be administered quickly, phlebotomy is the method of choice. This procedure may be used for long-term treatment if it is repeated at the required intervals. Radioactive phosphorus (P^{32}) is preferred by hematologists in cases of polycythemia vera. The use of anticoagulants involves many problems, such as the expensiveness of heparin, or frequent prothrombin time tests, if other anticoagulants are used. Birge therefore does not favor anticoagulant therapy but suggests more frequent study of the blood volume, with changes in the blood elements as indicated. This therapy seems to give better results with less danger and at less expense than anticoagulant therapy. By reducing the excessive blood volume, the problem can be handled simply in the office, and proper attention can be given to such secondary factors as hypertension, diabetes, or cardiac failure.

Vogt-Koyanagi Syndrome Precipitated by Lens Extraction: Report of a Case. E. A. Swartz. Am. J. Ophth. **39:**488-499 (April) 1955 [Chicago].

Swartz presents the history of a man, aged 55, in whom an extracapsular lens extraction was done for a hypermature cataract, with accidental rupture of the capsule. Subsequently bilateral uveitis, alopecia, poliosis, vitiligo, and dysacousia developed. While this combination of symptoms has long been known as the Vogt-Koyanagi syndrome, it has never been reported in its entirety as the result of intraocular surgery. The positive pigment test, along with the bilateral uveitis following surgery, is consistent with the diagnosis of sympathetic ophthalmia. Swartz feels that sympathetic ophthalmia and the Vogt-Koyanagi syndrome (which he would call uveoencephalitis in agreement with Cowper) are basically the same entity and of the same etiology, although the etiological factor need not be the same agent in all instances. He gained the impression that the two conditions are related like mirror images, in that in the so-called Vogt-Koyanagi syndrome the etiological agent gains entrance to the cranial contents and progresses thence to the eye, whereas, in the sympathetic ophthalmia form, the etiological agent gains entrance to the eye and progresses from there to the cranial contents. Penicillin, aureomycin, and terramycin were not beneficial in the treatment of this case. Cortone applied topically and subconjunctivally was of slight benefit as long as it was used but did not bring about complete quiescence of the disease process.

Experimental Approach to the Pathogenesis of Retrolental Fibroplasia: II. The Influence of the Developmental Maturity on Oxygen-Induced Changes in the Mouse Eye. L. J. Gyllensten and B. E. Hellstrom. Am. J. Ophth. **39:**475-488 (April) 1955 [Chicago].

Newborn mice and 5-day-old and 10-day-old mice were exposed to 98% or 100% oxygen for five days, after which they were rapidly transferred to normal air. They were killed from 1 to 10 days later, and the eyes were subjected to microscopic examination. All groups of mice showed hemorrhages in the eyes, mostly in the nerve fiber layer and in the vitreous body. There were irregular proliferations of the nerve-fiber vessels, with capillary tufts budding into the vitreous body, and irregularities of the retinal layers. In newborn mice the retinal changes were mostly concentrated in the neighborhood of the optic disk; in older ones they reached more anterior parts of the retina also. The ocular hemorrhages and the irregular vaso-proliferation were more conspicuous in mice exposed to concentrated oxygen at an earlier age than in those exposed to oxygen at a later age. The older animals tended to show more retinal irregularities and foldings than the younger ones, and an increasing frequency of a characteristic retinal atrophy of the ganglionic layer, the inner nuclear layer, and the outer plexiform layer was observed. These experiments seem to provide further evidence of the pathogenetic relation of the oxygen-induced eye changes of mice and human retrolental fibroplasia.

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THERAPEUTICS

A Method for the Objective Evaluation of Bronchodilator Drugs: Effects of Dapanone, Isuprel, and Aminophylline in Patients with Bronchial Asthma. L. Cander and J. H. Comroe Jr. J. Allergy **26:**210-218 (May) 1955 [St. Louis].

Seventeen asthmatic patients between the ages of 18 and 67 years were asked to inspire fully and then to expire as rapidly and forcefully as possible into a well-balanced spirometer writing with minimal friction on a rapidly moving kymograph. This procedure gives values for both vital capacity and maximal expiratory flow rates. The test measures objectively the degree of bronchial or bronchiolar obstruction. The technique is rapid and simple and requires a minimum of understanding and cooperation on the part of the patient. After several control tests, drugs were administered. On one day, isopropylarterenol (Isuprel) hydrochloride (1:200 aerosol) was administered first, followed 30 minutes later by 3,4-dihydroxyisopropylamine propiophenone (Dapanone) hydrobromide (2% or 5% aerosol); on another day, the order was reversed. The dose of the aerosol administered over a 10-minute period varied between 0.2 and 0.4 cc. Vital capacity and maximal expiratory flow rate were measured at 5-minute and 10-minute intervals during the next 30 minutes. In all cases, 0.5 gm. of aminophylline was given intravenously over a 10-minute period after the administration of the two other drugs. Results indicated that either 5% Dapanone or 0.5% Isuprel, given initially as aerosol, is an effective bronchodilator drug. Each drug produces a significant increase in maximal expiratory flow rate if administered after time has elapsed for maximal action of the other drug, administered first. The peak effect occurred in almost every patient within 30 minutes after the administration of these drugs. Maximal benefits, however, were obtained by the simultaneous use of these nebulized drugs and aminophylline, administered intravenously. Data obtained in the authors' study on the variability in vital capacity and maximal expiratory flow rate in asthmatic patients without therapy reemphasize the need for careful control studies in the evaluation of bronchodilator drugs.

Study of Framycetin Sulfate in Aerosol Therapy in 198 Cases of Bronchopneumopathy. A. Biron. Presse méd. **63:**551 (April 16) 1955 (In French) [Paris, France].

The author administered framycetin sulfate in aerosol form to 198 patients with bronchial asthma, tuberculous asthma, lung abscess, suppurating bronchitis, acute bronchitis, or pulmonary congestion. Results were good in 172, fair in 21, and poor in 5 patients. There were no instances of drug intolerance in the usual dosage of 100 mg. a day nor in doses ranging from 300 to 600 mg. a day. The highest total dose given was 18 gm. in 30 sessions. Thus framycetin sulfate in aerosols seems to be an efficient, safe method of dealing with certain pathogenic agents not easily influenced by other forms of therapy, such as resistant micrococci, and proteus or pyocyanic organisms.

Long-Continued Anticoagulation Treatment with Phenindione. P. Jorde. Nord. med. **53:**604-605 (April 14) 1955 (In Norwegian) [Stockholm, Sweden].

From October, 1941, to October, 1954, 30 patients were given long-continued anticoagulation treatment with phenindione on an ambulant basis. In 12 cases the diagnosis was cardiac infarct, in 11, angina pectoris, and in 7, thrombosis or embolism. Phenindione lends itself well to long-term anticoagulation treatment under ambulant control. The dosage for ambulant patients is higher than for hospitalized patients. The effect is fairly stable and an even prothrombin-proconvertin level seems to be more easily maintained with a constant dose of phenindione than with dicumarol. The duration of treatment averaged 339 days. In most patients the prothrombin-proconvertin level fluctuated between 10 and 30%. In some there were peaks beyond the 30% limit, as a rule because of need for increased phenindione dosage. Complications occurred in two patients; melena in one and hematoma in a whitlow in the other. The patients are warned that they must not undergo an operation without control of the prothrombin-proconvertin level.

Anticoagulants of Dicumarol Type: Clinical Experiments with Different Preparations. E. Lund, T. Geill, E. Søndergaard, and H. Dam. Nord. med. **53:**602:604 (April 14) 1955 (In Norwegian) [Stockholm, Sweden].

Marcoumar, dicumarol, and the Geigy preparations—tromexan, coumachlor, G. 25766, and G. 23350—were tested with respect to their efficacy in the treatment of thromboembolic diseases. The anticoagulant effect was determined according to Aas's modification of the Owren and Aas prothrombin-proconvertin method. Dicumarol was found to have the well-known effect described in the literature. The dosage of tromexan was difficult to regulate because of the great variations in the prothrombin-proconvertin values. Coumachlor has a powerful protracted effect; the dosage was difficult to regulate because of strong individual differences in tolerance. The effect of G. 25766 was also prolonged; the dosage was easy to regulate, and it is regarded as well adapted for clinical use. The action of G. 23350 is like that of dicumarol. Marcoumar exerts a prolonged effect, readily allows the prothrombin-proconvertin values to be kept within the therapeutic range for a longer time with constant dosage, and is well suited for clinical use. Intravenous administration of moderate amounts of vitamin K_1 in aqueous colloidal solution produces a sure and rapid effect on prothrombin-proconvertin activity, which is reduced as the result of treatment with dicumarol and like preparations. If grave bleeding has set in, 10 to 20 mg. of vitamin K_1 should be given intravenously as an antidote. The therapeutic effect is attained in the course of two hours. If vitamin K_1 is given orally, the effect appears after five or six hours. If the anticoagulation treatment resulted in prothrombin-proconvertin values lower than 10% and thus caused a latent risk of hemorrhage, the prothrombin-proconvertin activity can readily be brought into the therapeutic range by small daily oral doses (1 to 2.5 mg.) of colloidal vitamin K_1.

Intermittent Isoniazid Treatment. I. Seri, E. Fehérvári and I. Szabó. Beitr. Klin. Tuberk. **113:**234-240 (No. 3) 1955 (In German) [Berlin, Germany].

Intermittent treatment with isoniazid given on three consecutive days followed by a four day drug-free interval was given a trial in mice and men. Intermittent treatment of the animals was started with a daily dose of 15 mg. of isoniazid per kilogram of body weight on the first day after they had been inoculated with tubercle bacilli strain H 37 Rv. The intermittent treatment protected the animals against the development of tuberculosis in the same degree as the daily treatment with isoniazid did. Sixty patients with pulmonary fibrocavernous tuberculosis were given intermittent treatment with isoniazid at the State Tuberculosis Hospital in Budapest, Hungary. On three successive days the patients received a daily dose of 10 mg. of isoniazid per kilogram of body weight and in addition 10 to 16 gm. of *p*-aminosalicylic acid. In the next four days the patients did not receive any of the two drugs. This course of treatment was continued for 18 weeks. The results of the intermittent treatment in these patients were compared with those of the daily treatment of 50 patients with pulmonary tuberculosis with 5 mg. of isoniazid per kilogram of body weight and 4 to 12 gm. of *p*-aminosalicylic acid for 16 weeks. Results obtained with the intermittent treatment were superior to those with daily treatment since there was more pronounced roentgenologic improvement in general and concerning the cavities, the sputums of a larger number of patients became negative, and the improvement in the sedimentation rate was more pronounced. Development of resistance to the drug was slower, and the patients were able to tolerate larger doses of *p*-aminosalicylic acid. In the presence of moderate resistance, when small doses were no longer effective, improvement was still obtained with intermittent administration of the drugs. The incidence of undesirable side-effects was not higher with intermittent than with daily treatment. Consequently, this method of treatment is recommended for patients who are in the subacute stage of the disease and who require prolonged treatment.

BOOK REVIEWS

Advanced Surgery of Cataract. By Daniel B. Kirby, M.D., F.A.C.S., Surgeon, Department of Ophthalmology, University Hospital, New York. Cloth. $27. Pp. 271, with 234 illustrations. J. B. Lippincott Company, 227-231 S. Sixth St., Philadelphia 5; 2083 Guy St., Montreal, Canada; distributed by Pitman Medical Publishing Company, Ltd., 39 Parker St., Kingsway, London, W.C.2, England, 1955.

In this book Dr. Kirby focuses attention on some of his newer approaches, advanced ideas, theories, and techniques, beginning with the complete preparation of the cataract patient by individual appraisal. He emphasizes the importance of sedation, anesthesiology (local or curare), and attention to the operating room equipment, medications, and sterility. His comments on the attitude and psychological approach of the ophthalmologist and operating room personnel illuminate a phase in cataract surgery often overlooked. He stresses the elevation of the corneal flap for clear, direct visualization of iris details, the cataract, the zonular attachment, and their attachments to the preequatorial area of the capsule. He considers the indications and reasons for the round pupil intracapsular lens delivery with the forceps at the 12 o'clock position in the preequatorial region. His chapter on the normal and pathological vitreous and its physico-chemical state is revealing and informative. He discusses the postoperative degeneration of the vitreous due to trauma to the vitreous and adjacent structures. He strongly advises against the use of undue and excessive pressure to separate the zonule and deliver the lens. He has developed a new and original explanation of the mechanics of the pressure maneuvers based on fundamental research and has redefined the variations of traction, force, the effects of the direct pull, elevation, tension, and sliding rotation. The surrations seen near the equator of the lens when traction is made on the lens capsule are also described. These serve as a guide against undue traction. One of the highlights of the book is the description of the procedures in the direct separation of the zonule above with a minimal amount of trauma and with a vitreous loss of slightly over 1%. The author reports having removed 97% of the lenses in capsule. Only by reading this abundantly illustrated and crystal clear description of the many newer concepts and techniques of cataract surgery can the ophthalmologist be made aware of the detailed and intimate interpretation of the phenomena occurring during cataract operations.

Doctors in the Sky: The Story of the Aero Medical Association. By Robert J. Benford, M.D., Colonel, Medical Corps, United States Air Force. Cloth. $8.75. Pp. 326, with illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto, 2B, Canada, 1955.

This is the story of the first 25 years of the Aero Medical Association and its growth from a group of 35 men in 1929 to the prominent organization it is today. The book pays tribute to Dr. Louis A. Bauer, founder and first president of the association, a one time military flight surgeon who organized the first school of aviation medicine and wrote the first book on this subject. There are chapters on aviation medical journalism, medicine and air commerce, flight surgeons for airlines, and the recognition of aero medicine as a specialty. Interwoven into these chapters are biographical sketches of all the past-presidents of the association and a description of its annual meetings. Appendixes list the meetings, presidents, fellows, honorary members, certified specialists in aviation medicine, and others who in one way or another have achieved special prominence. The constitution and bylaws of the association are reprinted, and a selected bookshelf of aviation medicine is given. The illustrations are well selected but of uneven quality. The index consists chiefly of the names of military and civilian flight surgeons. The book will probably be of limited interest to those who are not closely associated with aviation medicine.

These book reviews have been prepared by competent authorities but do not represent the opinions of any medical or other organization unless specifically so stated.

Handbook of Parliamentary Procedure. By Henry A. Davidson, Parliamentarian, American Psychiatric Association, Cedar Grove, N. J. Cloth. $3.75. Pp. 292. Ronald Press Co., 15 E. 26th St., New York 10, 1955.

The author shows evidence of his medical training in that he not only names the "diseases" and tells the basic characteristics of each "disease" but also recites possible complications and tells how each one may arise and how it should be treated should it arise. This book is more of a reference book or textbook than a handbook. Examples of the use of rules and a discussion of the reason for and method of their use is a feature. The glossary with the definition of each technical term is invaluable. Although exact details in answering hypothetical questions with a discussion of other possible opinions is of great value to the beginner, the expert will also gain much in reading this book. It gives sense and understanding to "Roberts Rules of Order" and other standard works that are commonly misinterpreted. The discussion of the difficult problem of substitute motions, often encountered in dealing with the so-called minority reports of committees is especially interesting. The lucid and logical explanation of many of the most troublesome rules will tend to increase the efficiency of every chairman who reads the book. This book not only instructs the chairman but also tells the members of an assembly how to accomplish their purposes and how to protect their rights. In fact, after reading this book a "sea lawyer" will know more than many able chairmen.

Bickham-Callander Surgery of the Alimentary Tract. Volumes I, II, and III. By Richard T. Shackleford, M.D., Assistant Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore. Assisted by Hammond J. Dugan, M.D., Assistant in Surgery, Johns Hopkins University School of Medicine. [Second edition.] Cloth. $60. Pp. 862; 863-1633; 1635-2575; lxxxix, with 1705 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, England, 1955.

In the foreword, the author, who was once associated with the late Dean Lewis, states that he accepted revision of Bickham's Operative Surgery with "a considerable amount of trepidation." After passing the second chapter, one can state that his uncertainties were not well founded. He shows fearless, positive, and thorough knowledge of all segments of surgery. He supports his point of view with a well-chosen, authoritative, and current bibliography, at the end of each chapter. The results of surgical procedures are stated. A succinct comment follows each description. The illustrations are well executed, properly placed, and have excellent legends. This type of book finds its greatest need in outlying communities, far removed from our teaching centers. Volume 1 deals with the esophagus, stomach, duodenum, liver, gallbladder, and extrahepatic bile ducts; volume 2 with the pancreas, spleen, small intestine, peritoneum, omentum, mesentery, and colon; and volume 3 with the anorectal tract, excision of the rectum, hernia of the gastrointestinal tract, and incisions. The author has handled a difficult assignment very well.

Heart Disease: Its Diagnosis and Treatment. By Emanuel Goldberger, M. D., F.A.C.P., Associate Attending Physician, Montefiore Hospital, New York. Second edition. Cloth. $12.50. Pp. 781, with 107 illustrations. Lea & Febiger, 600 S. Washington Sq., Philadelphia 6, 1955.

In this edition Dr. Goldberger has retained the same general pattern as in the first edition, but with a number of changes and additions. Chapters that have been revised and expanded are those on heart failure, congenital heart disease, cardiac surgery, hypertension, and myocardial infarction. A new chapter on ballistocardiography has been added. Dr. Goldberger, who is probably best known for his work on unipolar electrocardiography, has resisted the temptation to overemphasize that phase of cardiology and has written a well-balanced, up-to-date, standard book on heart disease as a whole. It is well illustrated. At the end of each chapter there is a well-selected bibliography. This volume is recommended as a textbook for medical students and interns and as a reference book for the general practitioner.

QUERIES AND MINOR NOTES

FALL-OUT RADIATION

To the Editor:—*The Atomic Energy Commission stated recently that the amount of radiation due to fall-out was not greater than that affected by subjecting a person to a chest x-ray examination. Is not the distribution of the fall-out radiation at times irregular due to such factors as shifts of winds and precipitation so that even distant localities may get more radiation than those closer to the explosion? What about the amount that is added to the rest by the consumption of exposed water, crops, and livestock?* *M.D., New York.*

Answer.—With regard to the distribution of fall-out radiation, there are marked variations due to winds, precipitation, and the like. The Atomic Energy Commission maintains a broad network of measuring stations. Studies of water, crops, and livestock have been and are being carried out very widely. As yet, no off-site levels of radiation equal to those received during a chest x-ray examination have been found nor is it likely that such will be the case in light of the careful plans made by the Atomic Energy Commission and its scientists for the carrying out of the tests.

OUTPATIENT SHOCK TREATMENTS

To the Editor:—*A psychiatric patient has received shock treatments in a mental hospital with improvement, and it has been suggested that he receive the shock treatments on an outpatient department basis. Is shock therapy to be recommended on an outpatient department basis?*

Francis J. Petrone, M.D., Fall River, Mass.

Answer.—Some psychiatrists administer shock treatments to ambulatory patients in outpatient offices and in private offices. Since the shock treatment is followed by a period of confusion, the patient must be accompanied by someone capable of waiting for his recovery from the postshock confusion and able to take the patient home. Many psychiatrists completely reject ambulatory shock treatment, since the many possible complications and sequelae of shock treatment are not under their observation or control if the patient then goes home. There is a sharp division of opinion about the matter, and this consultant would caution that anyone who does ambulatory shock treatment takes an unnecessarily dangerous responsibility for which there may be liabilities for serious medical-legal prosecution.

SUTURE MATERIAL FOR CORRECTION OF INGUINAL HERNIA

To the Editor:—*In the repair of an inguinal hernia, direct or indirect, some surgeons use stainless steel for sutures. What is the consensus on the use of steel sutures? Are they superior or inferior? Can their use be harmful from a long-range point of view?* *M.D., New York.*

Answer.—Although there is no complete consensus as to what type of suture material should be used for correction of inguinal hernia, it is the opinion of this consultant that the majority of surgeons believe stainless steel sutures are of little benefit in the performance of a hernioplasty. There is a general consensus, however, that nonabsorbable suture should be used, and apparently there is about an equal division among those particularly interested in the subject about the advisability of the use of cotton or silk. It is generally agreed that absorbable (catgut) sutures should not be used, because of the greatly increased reaction in any wound when absorbable sutures are used. Although stainless steel produces no reaction, it is probably undesirable for a radio-opaque material to be left within the abdominal wall. If the individual is thin, the sutures can frequently be felt, which is occasionally of psychic importance, and at times the sutures produce discomfort or real pain. Certainly, if reoperation becomes necessary, which is occasionally the case in spite of the type of suture material used, operation is much more difficult if stainless steel has been used at the previous procedure. This consultant is of the opinion that stainless steel has no advantage over the other nonabsorbable material, such as cotton or silk, and it has definite disadvantages in that it is more difficult to use and remains behind as a palpable and radio-opaque suture.

DIZZINESS IN SAILOR WHILE ON LAND

To the Editor:—*A 43-year-old white man complains of dizziness. He has resigned from the Merchant Marine after eight years' service. He states that while aboard ship at sea he was never bothered by dizziness; however, on going ashore he began to notice dizziness. Since he has been land based for eight months the dizziness has become progressively worse. There are no essential findings that could explain this. Blood pressure is 140/100 mm. Hg, the heart and lungs are normal, and the genitourinary, cardiorespiratory, and gastrointestinal systems are normal. He recently had an adenoidectomy and plastic surgery of the nose for nasal obstruction due to an old fracture. He had a chronic mild otitis media in the past, but it is not active now. Could this represent an imbalance of the vestibular system as a result of the constant rolling and pitching of a ship at sea? Treatment at present is dramamine, 50 mg. three times a day, and a low-salt diet.*

Jonathan P. Shermer, M.D., Fort Smith, Ark.

Answer.—Dizziness of peripheral vestibular origin may be the result of labyrinthine hydrops (Ménière's disease), labyrinthine injury by fracture or concussion, or interruption of the arterial blood supply to the labyrinth. In all of these conditions the vertigo is associated with nystagmus, nausea, vomiting, and ataxia, and in most of them there is also a perceptive hearing impairment. In labyrinthine hydrops the vertigo is characterized by recurring attacks with comparative freedom from dizziness between attacks. In the other conditions mentioned there is a single attack of vertigo lasting a few hours or days followed by gradual recovery. In the case described, where the dizziness is continuous, it is unlikely that it is due to peripheral labyrinthine disease. It is more likely due to a central disturbance such as multiple sclerosis or a psychogenic factor. It is not conceivable that dizziness lasting eight months could be the result of the motion of a ship at sea.

HEPARIN-LIPOTROPIC THERAPY

To the Editor:—*Please comment on heparin-lipotropic therapy as discussed by Read and Obetz in an article in the* Ohio State Medical Journal, *March, 1955.* *M.D., Wisconsin.*

Answer.—Therapy directed at a reduction of serum lipids, and particularly of the low density (beta) serum lipoproteins, is logical in view of present knowledge of the pathogenesis of atherosclerosis. Although other factors, such as blood pressure and local factors in the vascular wall are undoubtedly important, the evidence is fairly conclusive that the circulating lipoproteins are the source of the increased lipids found in atherosclerotic vascular walls. The physical state and particle size of the lipoproteins are important (in agreement with the older macromolecular theory of Hueper), probably due to the filtration properties of the vessel walls. The injection of heparin results in the formation of lipemia-clearing factor, or heparin-active factor, and a rapid decrease in the concentration of the larger low density (beta) lipoproteins. There is a reduction of the total

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amount of fat in the blood stream. Studies of most cell counts in animals and humans, and of circulating heparin levels, indicate that decreased heparin production in the body may be etiologically important in the accumulation of large amounts of circulating low density serum lipoproteins. Heparin retards the development of atherosclerosis in cholesterol-fat fed animals. However, reports of the effect of heparin therapy in angina have been contradictory. It must be remembered, however, that angina is a manifestation of preexisting disease. The product mentioned, Hepnine B, combines heparin, so-called lipotropes, and vitamin B factors. The preponderance of evidence negates any effect of added lipotropic substances on plasma lipids. The amount of heparin (25 mg.) in 1 cc. of the product is rather small, too little for marked or protracted anticoagulant or antilipemic effect. It is stated in the article quoted that choline negates the anticoagulant action of the heparin, but no data are given. The changes in the Sf 0-400 lipoproteins mentioned in three cases are unconvincing. In the first two cases—patients with diabetic gangrene and postacute myocardial infarction—the lipoproteins may have been reduced by active tissue necrosis and stress. The slight lipoprotein drop in the third case could easily be a spontaneous variation. Thus the beneficial effects noted were in angina, a most deceptive symptom. In view of the very small amounts of heparin given (25 mg. twice weekly) and in the light of present knowledge, it is hard to understand the mechanism responsible for the beneficial effects that were reported. Considerably larger amounts of heparin are required for prolonged marked reduction of plasma lipemia or lipoproteins.

WEIGHT REDUCTION

To the Editor:—*A man, 49 years of age, height 5 ft. 3 in., weighs 194 lb. He has taken off weight by a very hard diet; about 20 lb. His heart is normal, and the electrocardiograph does not show any pathological changes. His basal metabolic rate is plus 20. He lives on a diet of about 1,000 calories daily, but the weight does not go down further. What would you recommend in this case?* *Nathan Roos, M.D., New York.*

Answer.—A man who is 5 ft. 3 in. and weighs 194 lb. would have a basal metabolic caloric need of 1,600 to 1,900 calories. Nothing has been said of this patient's activity. It seems highly improbable that this patient is maintaining a constant diet of 1,000 calories and cannot lose weight. If it is at all possible, a week's hospitalization where the patient can be given a weighed 800 to 1,000 calorie diet and at the same time receive considerable dietary instruction and counseling might start the patient to lose weight again and thus encourage him. After discharge from the hospital it might be a good idea if he indulge in some light exercise regularly in addition to his dieting and, as an adjunct to his regular visits to his physician, to make regular bimonthly visits to a nutritionist who will spend time discussing his diet difficulties and give him understanding and encouragement. The motivation to lose weight must be there before anyone can continue on any restricted diet. This motivation must be kept alive, and the physician and nutritionist will have to help do this. Diet lists alone are not enough.

DIET AND PHYSICAL ENDURANCE

To the Editor:—*Can an alkaline diet hasten recovery from strenuous physical exertion? Can a preponderance of acid foods in the diet have an adverse effect on physical efficiency, endurance, or recovery from exertion?*

Nathaniel Sharp, M.D., Baltimore.

Answer.—As far as known there is no evidence that an "alkaline-ash" diet or "acid-ash" diet can affect efficiency and endurance. Diets are considered acid or alkaline by nature of the mineral residue they leave after combustion in the body. Meat, eggs, cereals, and cheese are the main acid-ash foods, while vegetables, most fruits, and milk are the main alkaline-ash foods. The body has an excellent buffer system, and the pH is very difficult to alter by dietary means. The pH of the urine can be acid, but this or the alkalinity of the diet has no known effect on physical endurance.

SCHOOL SHOWER FACILITIES

To the Editor:—*Are so-called gang or private shower facilities preferable for girl students in junior and senior high schools? Our high school has only two shower cubicles, and the rest of the shower facilities are without partitions. The school authorities have been advised that shower facilities without partitions are proper for girls of high school age, but some parents are not in favor of "gang" shower facilities.*

M.D., Connecticut.

Answer.—Whether "gang" showers or "stall" showers should be constructed in the shower facilities for girl pupils in junior and senior high schools depends on the self-consciousness and modesty of the pupils. Experience has shown that, in constructing a battery of showers, it is advisable to have the majority of them as "gang" showers, with one or two, or some other small proportion commensurate with the size of the school, in private shower stalls. Most pupils prefer "gang" showers. One will invariably find a few pupils, boys or girls, who by reason of early training and habit, insist on privacy in the nude. However, the appeal of the group soon leads them to prefer the "gang" showers. The reason for wanting to shower alone may be a habit of years, it may be based on immaturity of development or some physical disability that may cause comment, or it may be that the individual is not socially inclined. Whatever the cause, a few stall showers should be provided to permit these individuals to enjoy recreational activities without unnecessary embarrassment. The great majority however should be "gang" showers, which are more efficient. Since they are in the open with a minimum of wall area, they are much easier to keep clean and free from odors. Likewise, dressing in a shower stall limits the number of persons using the shower and therefore requires more showers and a larger portion of the building devoted to shower facilities.

LEUKOPLAKIA OF CERVIX

To the Editor:—*A patient has leukoplakia of the cervix, which covers quite an extensive area. What is the best way of treating it?*

Howard T. Morse, M.D., Takoma Park, Washington, D. C.

Answer.—Leukoplakia of the cervix is likely to change in character or disappear without treatment. It is usually induced by irritation and consists of a simple hyperkeratosis with a slight increase in the activity of the basal layer of cells. In spite of the fact that cancer of the cervix has occurred in conjunction with leukoplakia, there is no evidence that it is a precancerous lesion. The patient should be observed periodically, and, if there is any question as to the diagnosis, cytological smears and a liberal biopsy will help.

PARALYSIS OF DIAPHRAGM

To the Editor:—*A boy, aged 7 years, was found to have a paralysis of the right side of the diaphragm on a routine chest x-ray. The lungs were reported within normal limits. The condition is asymptomatic as far as the child, who appears normal, is concerned. Kindly send me the latest information on this condition. Is surgery indicated?*

Morton Marks, M.D., Milwaukee.

Answer.—Idiopathic paralysis of the diaphragm is not uncommon. It goes under the term of "eventration of the diaphragm." As the word "idiopathic" suggests, its cause is not known. Apart from its relatively slight effect on vital capacity, it is not clinically significant. Prior to 1936, induced permanent paralysis of the diaphragm by extraction of the phrenic nerve was common treatment in pulmonary tuberculosis. People who had this treatment have suffered no important ill-effects. In a child adjustment to the condition will probably be very satisfactory, and the condition will probably never become clinical. The only treatment is thoracotomy with plication of the diaphragm. This lowers it and permits greater expansion of the lung with a consequent increase in vital capacity. In a child operation should possibly be considered.

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